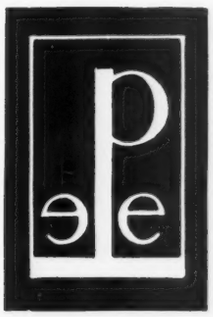
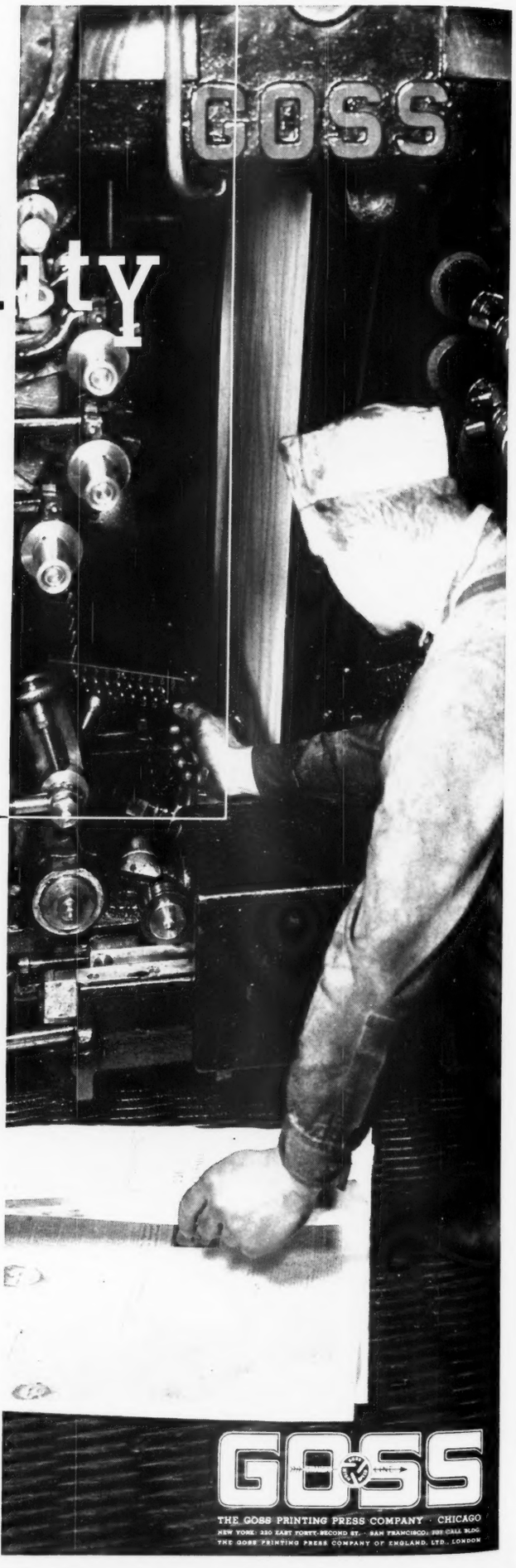
PRINTING EQUIPMENT ENGINEER



Edited for those concerned with the use and care of Printing Equipment

JUNE 1932

accessibility



● Accurate and positive adjustment of the easily accessible ink fountains on Goss Presses contributes to clearer, better-printed newspapers. The fountain ends are within easy reach of the pressman, who has ample clear space to make the sensitive adjustments necessary for high-quality printing. Once the adjustment has been made, moreover, it requires little or no attention.

● The Goss system for ink regulation and distribution not only improves the appearance of newspapers printed on Goss Presses, but also leads to brighter, cleaner pressrooms. Goss Presses do not throw ink—the air is free from ink mist.

● Pressmen, and alert publishers who appreciate pressroom problems, recognize in these Goss features further evidence of the superiority of Goss Presses. They excel in design, quality of materials, and workmanship.

GOSS

THE GOSS PRINTING PRESS COMPANY · CHICAGO

NEW YORK: 330 EAST FORTY-SECOND ST. · SAN FRANCISCO: 535 CALL BLDG.

THE GOSS PRINTING PRESS COMPANY OF ENGLAND, LTD., LONDON

CAN YOU AFFORD *to*

Install Equipment NOW?

Can you afford to pay for higher production costs and operating expenses than you would have with more effective equipment?

The money you pay out that way is gone forever.

Setting the display composition you do, you should learn what reduction you can make with the Ludlow in your actual current expenditures—perhaps even enough to take care of the required payments on the purchase of equipment which will continue for many years to help you with savings and increased profits.

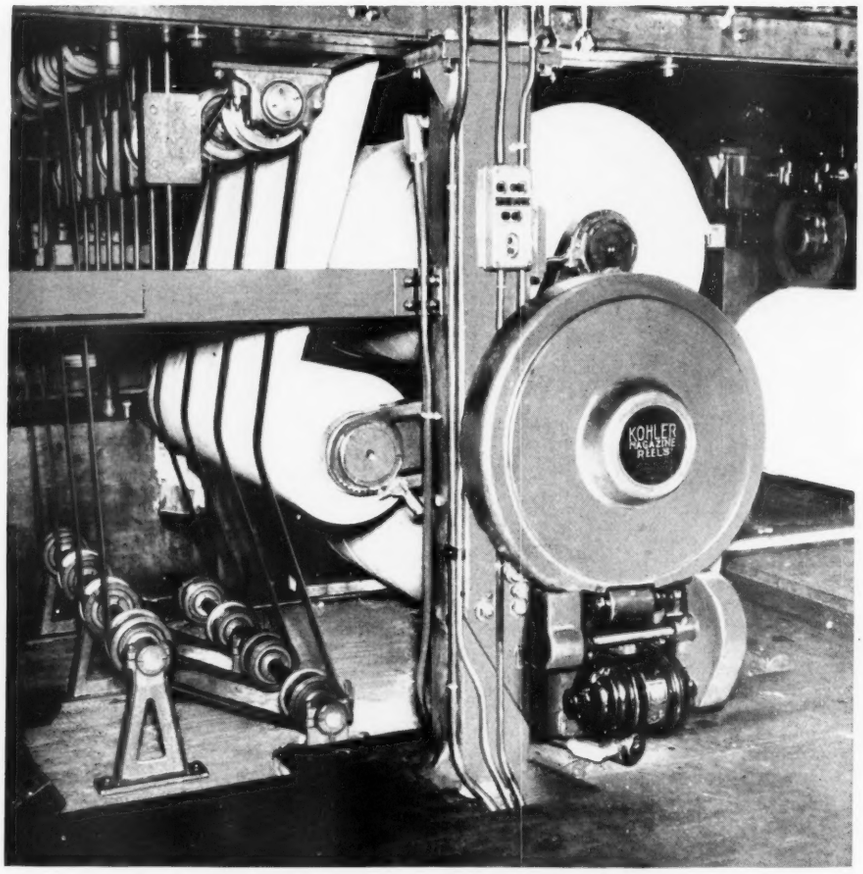
These savings come from wholly or partly eliminating operations and cost items not required with the Ludlow. We will gladly have a representative study the possibilities with you, if you will give us the opportunity.

LUDLOW TYPOGRAPH COMPANY

2032 Clybourn Avenue . . . . . Chicago. Illinois

Set in Ludlow Mayfair Cursive, Bodoni Black and True-Cut Bodoni

PROVEN PRODUCTION



THE new Kohler Web Control is the most perfect method of web tensioning that has been, or is likely to be developed. ¶ There is no substitute for simplicity. ¶ With a correct operating principle, no scuffing of the sheet, entirely automatic action, and perfect red button stops with absolutely no slackening of the sheet, from any press speed, and with any size or condition of roll, this system of Web Control is entirely unique in the proven results which have been obtained in every plant in which it has been installed. ¶ If you are interested in greater production, reduced white waste, trouble-free operation, and economical maintenance, ask us to prove the above statement.

KOHLER BROTHERS

ENGINEERS AND MANUFACTURERS

CHICAGO NEW YORK SAN FRANCISCO

KOHLER MAGAZINE REELS FOR GREATER PRODUCTION

150 Newspapers
have bought
Vulcan Press Blankets
during the past six months

THE Vulcan Blanket has made a hit. It has demonstrated its money-saving advantages. It has demonstrated its freedom from swelling, bolstering, and drying out. It has demonstrated its excellent printing qualities.

Before this blanket was introduced it had undergone a long period of develment and practical tests. Many types of blankets were tried out and discarded. Even after the present Vulcan Blanket was completed, it was tested for nearly a year on modern high-speed presses before it was put on the market.

That is why the Vulcan Blanket has been so successful. There are no "bugs" in it. It saves money. And it solves many pressroom problems.

Write for booklet, "Answering Your Questions About Vulcan Press Blankets."

VULCAN RUBBER ROLLERS

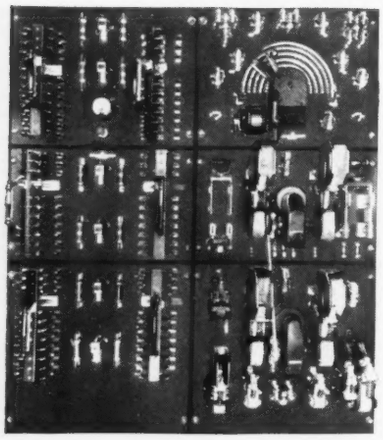
LONG life and economy . . . better distribution . . . freedom from troubles caused by variations in temperature . . . worth-while savings in wash-up materials and labor . . .

These and other advantages of Rubber Rollers are very desirable. But in order to *insure* them, the Rubber Roller must have certain essential characteristics . . .

It must be highly resistant to oil — to prevent excessive and uneven swelling. It must not lip up at the ends. It must have a fine, smooth, uniform surface. It must operate for long periods without regrinding—and must regrind perfectly with slight reduction in diameter.

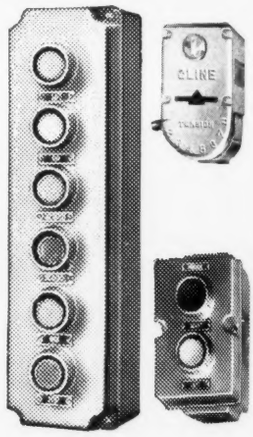
These, briefly, are some of the outstanding characteristics of Vulcan Rollers. Printed matter describing them will be sent on request.

VULCAN PROOFING COMPANY
First Avenue and Fifty-eighth Street, BROOKLYN, N. Y.



CLINE SYSTEM

CLINE ELECTRIC MANUFACTURING COMPANY CHICAGO



HIGH SPEED PRODUCTION

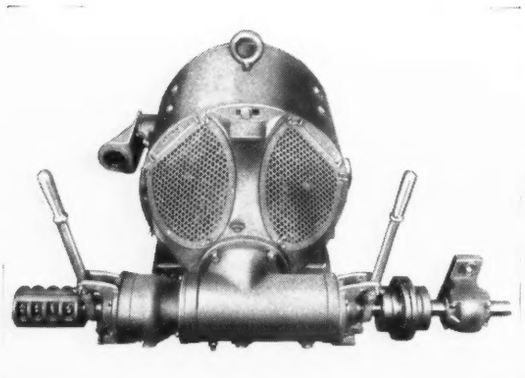
High speed production depends on correlated equipment. The Cline System correlates the Cline Unit Press Drive and Cline Electric Tension with Press Control, insuring absolute co-ordination of press speed and web tension for "High Speed," "Slowdown" and "Quick Stop."

CLINE ELECTRIC MFG. CO.

MAIN OFFICE: Conway Building, 111 W. Washington St., CHICAGO, ILL.

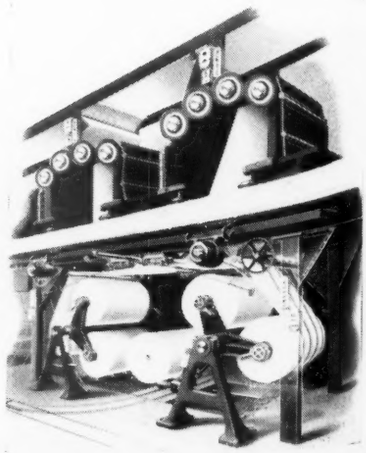
EASTERN OFFICE
The News Building
220 East 42nd Street, New York City

WESTERN OFFICE
First National Bank Building
San Francisco, California



CLINE SYSTEM

CLINE ELECTRIC MANUFACTURING COMPANY CHICAGO



HUBER HIGH SPEED

FOR
NEWSPAPER ADVERTISING
COMICS • MAGAZINES

UNQUALIFIED PERFORMANCE AT 47,000 IMPRESSIONS PER HOUR

After exhaustive analyses of publishers' and advertisers' requirements, a comprehensive range of high speed colors in bright, pleasing shades has been developed.

In these colors, perfect balance of tone and strength is achieved. Hence, when printed alone or in combination with each other, the resulting tonal harmony and attention-compelling value will be at a maximum.

These Huber Inks are now being used successfully on every make of press; their performance—even while run at speeds up to 47,000 impressions per hour on spray fountain equipment—has established a new and higher standard in the printing industry.

•

INKS

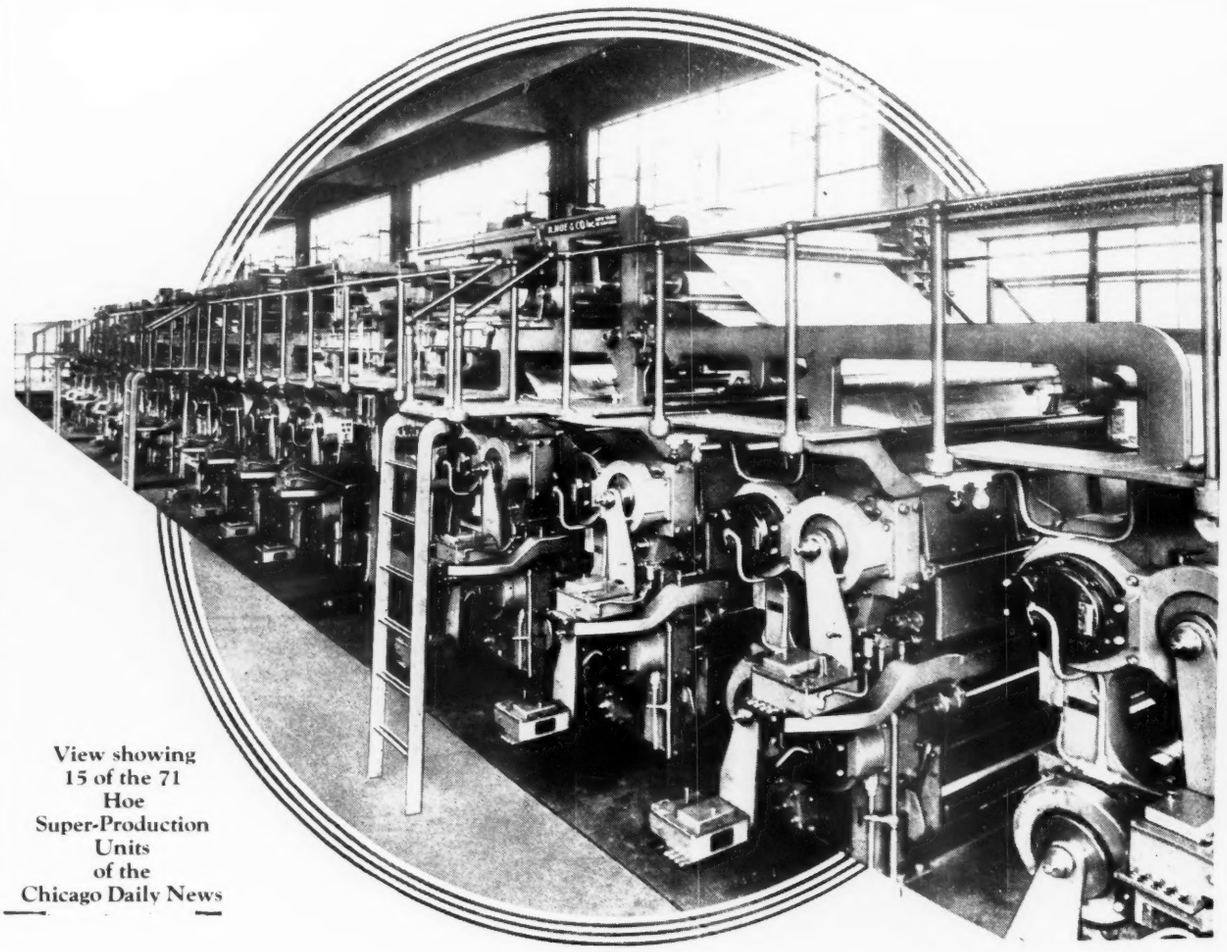
NEWS • COMIC
GRAVURE
MAGAZINE

•

J. M. HUBER, INC., NEW YORK, N. Y.

Boston Chicago Des Moines St. Louis
Cleveland Twin Cities Omaha Washington

OVER 150 YEARS' SERVICE TO THE PRINTING TRADES



View showing 15 of the 71 Hoe Super-Production Units of the Chicago Daily News

HOE SUPER-PRODUCTION PRESSES

With These Exclusive Features

Automatic Ink Pumps ★ Staggered Roller Bearings ★ Safety Leading-in Pans ★ Visual Micrometer Impression Adjustment ★ Ball Thrust Bearings ★ Shortest and Quickest Web Leads ★

Assure

Maximum Net Output ★ Highest Quality of Printing ★ Maximum Plating and Threading Speed and Ease ★ Greatest Convenience and Safety of Operation ★

Color Attachments for Dailies — *Paper Reels and Full Speed Pasters*
Automatic Tension Attachments — *Precision Plate-Making Machinery*

IRVING TRUST COMPANY *and* HARRY R. SWARTZ
RECEIVERS IN EQUITY FOR

R. HOE & CO., INC.

General Offices:
138TH STREET *and* EAST RIVER • NEW YORK CITY

BOSTON CHICAGO SAN FRANCISCO LONDON

New Orleans

Another modern, completely equipped factory, especially built to manufacture inks of the better grade for every process of printing. Now ready to serve you at---

Jefferson Davis Pkwy. & I. C. R. R.
NEW ORLEANS, LA.

Independent and Progressive

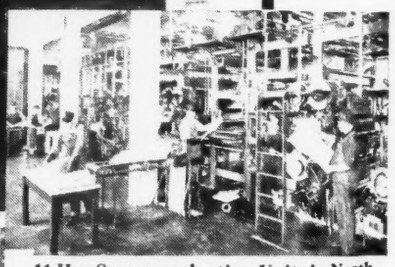
Howard Flint Ink Company

DETROIT • HOUSTON • NEW ORLEANS • NASHVILLE • INDIANAPOLIS

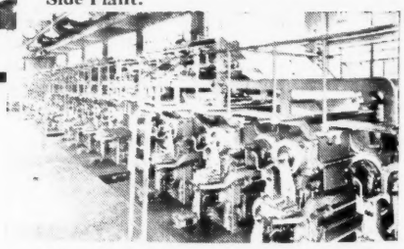
Better printing puts Goodrich Rollers into Every Plant of

THE CHICAGO DAILY NEWS

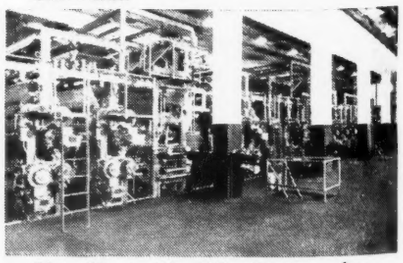
Main plant The Chicago Daily News. Photo by Kaufman & Fabry.



11 Hoe Super-production Units in North Side Plant.



15 Hoe Super-production Units in South Side Plant.



Main Plant with 45 Hoe Super-production Units.

NORTH Side — South Side — Main — every plant of the great Chicago Daily News will be equipped with Goodrich Rubber Rollers.

Finer printing with new economies in materials and time was the deciding factor. Now Goodrich Rollers go on the News' 71 Hoe Super-production Press Units.

Good printing has turned newspapers everywhere to Goodrich Rollers. On large presses and on small they make type printing sharper, keep half tones cleaner — brighten up the whole appearance of the newspaper.

At the same time Goodrich Rollers save money. Their longer wear alone amounts to more than their extra cost. And in addition wash-ups are eliminated, doctoring and resetting of rollers are reduced to a minimum. Economies appear all along the line.

Write today and let us tell you how Goodrich Rubber Rollers can bring you trouble-saving efficiency and better printing quality to your own plant.

Goodrich *Printers'* Rollers

NILES & NELSON, Inc.

75 West Street, New York — *Exclusive Distributors* — 400 W. Madison St., Chicago

PRINTING EQUIPMENT ENGINEER

TRADE MARK REGISTERED U. S. PATENT OFFICE. ESTABLISHED 1910

VOLUME 44
JUNE, 1932
NUMBER 3

W. D. WILL, Publisher MAC SINCLAIR, Editor

In This Issue:

Newspaper Plant Economy - - - - - - - 13

Editorial Comment - - - - - - - - - 14

Confidence and "Intestinal Fortitude" - - - 15
Mac Sinclair

Dry Mat Manipulation - - - - - - - - 16
Dry Mat Bill

Non-Distribution Minus "Can" Storage - - - 17
Leon A. Link

Transferring for Offset Lithography - - - - 18
Frank O. Sullivan

May Printing Patents - - - - - - - - - 20

Linotype Metal Pot Mouthpiece Lockup - - - 21
R. R. Mead

Vibrators for Stereo Casting Boxes - - - - 22

Iowa Executives' Meeting - - - - - - - - 22

Good Newspaper Halftone Printing - - - - 24
Thomas E. Dunwody

Obsolescence—And a Reason for It - - - - 26
Norman G. Steltz

Latest Printing Equipment Mechanisms - - - 28

New Catalogs, Books and Bulletins - - - - 46

Let others also read *The Engineer*

After you have read this copy, pass this magazine along to the other men in your organization. They will undoubtedly get helpful ideas from its pages.

Check in left column after reading. Note articles of interest.

☐ *Composing Room Superintendent*

☐ *Superintendent Press Room*

☐ *Chief Composing Room Machinist*

☐ *Superintendent Stereotype Foundry*

☐ *Monotype Department*

☐ *Photo Engraving Department*

☐ *Superintendent Electrotype Department*

☐ *Foreman Lithographing Department*

☐ *Bindery Foreman*

☐ *Production Manager*

☐ *Mechanical Superintendent*

☐ *Manager*

☐ *Purchasing Agent*

PUBLISHED MONTHLY AT
1370 Ontario Street • CLEVELAND, OHIO

EASTERN OFFICE: S. M. Goldberg, Graybar Building, 420 Lexington Avenue, New York, N. Y. Phone, Mohawk 4-5232

Accepted ABC Applicant

Copyright 1932 by W. D. Will, Trade-mark Registered U. S. Patent Office; Single copy $.25; subscription price, $2.00 per year, in advance. PRINTING EQUIPMENT ENGINEER is fully protected by copyright and nothing that appears in it may be reproduced either wholly or in part without permission.

Another case of
The TAIL *wagging the* DOG!

THE invention of the Black & White Contrast Matrix was prompted by the desire of a linotype operator to save his fellow-workers' eyesight . . . . to minimize the eyestrain attending the constant watching of glittering brass matrices.

But it was subsequently found that the invention was also an error-saver. And ever since, the tail has been wagging the dog.

The error-reducing and money-saving feature has been inducing printers and publishers to provide the comfort feature for operators which the inventor originally had in mind.

We will welcome the opportunity to prove that Black & White will eliminate at least 25% of all the typesetting-machine errors in your plant. Write—there is no obligation involved.

Matrix Contrast Corporation

(Sole Licensees of the Percy L. Hill Black and White Patents No. 1466437, held valid by U. S. District Court, Eastern District of New York. Infringers will be vigorously prosecuted.)

33 West 42nd Street, New York

BLACK & WHITE
Contrast Matrix
"Contrast Provides VISIBILITY"

PRINTING
EQUIPMENT
ENGINEER
June, 1932

Newspaper Plant Economy

To Be Discussed at A. N. P. A. Mechanical Conference

THE sixth annual conference of the Mechanical Department of the American Newspaper Publishers' Association, as announced in the May ENGINEER, will be held this year in Cincinnati, Ohio, on June 7-8-9. The Greater Hotel Gibson will be convention headquarters.

According to W. E. Wines, manager of the Mechanical Department, the program subjects have been selected and arranged so that the meeting will be of unusual interest for the newspaper mechanical executive in that some of the things which have developed during the past year will be on the program for discussion.

In announcing plans for the conference, Mr. Wines says that an important feature of the program will be a symposium on economy in the mechanical departments, to which each one who attends is expected to make a contribution. No doubt the executives of every newspaper to be represented at the conference have accomplished some economy in which other executives will be interested.

R. J. Barrett, president of the Matrix Contrast Corporation, one of the smartest composing room executives in the country, will speak on "Composing Room Management and Economy." Mr. Barrett has promised a thoroughly practical talk based on his wide knowledge of composing room management.

A new feature of the convention this year will be exhibits of the recently redesigned Teletypesetter, the Howey photo-electric engraving machine, the Howey new projection printer and the Bekk instrument for testing the smoothness of paper surface, and it is hoped that Buford Green's new Semagraph may be exhibited by Curtis L. Johnson, publisher of the Charlotte *Observer*.

B. L. Wehmhoff, Technical Director of the Government Printing Office, will continue his progress report on newsprint and news ink investigation, in which there have been several interesting developments.

In addition to the other arrangements, trips are being planned for the delegates who are interested to visit the plant of the Rapid Electrotype Co., the McCall plant at Dayton, the International Printing Ink Co., local newspaper plants, and the book paper mill at Chillicothe. None of the trips will interfere with the regular conference sessions.

As is the usual custom, provision has been made on the program for the introduction of miscellaneous topics for discussion. These topics relate to the operation of the mechanical departments of the newspaper in any of its phases.

The conference program is as follows:

TUESDAY—10:00 A. M.

Address of Welcome

Progress Report on Study of Ink and Paper by A. N. P. A. in Cooperation with Government Printing Office, B. L. Whemhoff, Technical Director, Government Printing Office.

TUESDAY—1:00 P. M.

Inspection Trip to Magazine Printing Plant and Ink Factory of McCall Co., at Dayton, Ohio, or visit to Rapid Electrotype Co., or visit to International Printing Ink Co., or Inspection Trips to Newspaper Plants.

TUESDAY—8:00 P. M.

What the Agency Does in the Preparation of a Newspaper Campagn, Geo. W. Speyer, Production Manager, J. Walter Thompson Company, Chicago.

WEDNESDAY—9:30 A. M.

Legibility of Newspaper Type Faces, Howard T. Hovde, Wharton School of Commerce, University of Pennsylvania.

WEDNESDAY—1:30 P. M.

Inspection Trips to Rapid Electrotype Company and Newspaper Plants.

WEDNESDAY—8:00 P. M.

Discussion on Miscellaneous Topics.

THURSDAY—9:30 A. M.

Composing Room Management and Economy—R. J. Barrett, President, Matrix Contrast Corporation, New York, N. Y.

THURSDAY—1:30 P. M.

Symposium on Economy in the Mechanical Departments.

FRIDAY

Inspection Trip to Paper Mill at Chillicothe.

Editorial Comment

The Mechanical Conference

As time passes, the value of the work accomplished by the A. N. P. A. Mechanical Department under the supervision of Walter E. Wines is becoming apparent. It would seem that the money expended by members of the parent organization over a six-year term is bringing dividends in the way of definite knowledge to publisher-members which is applicable to the practical operation of newspaper plants.

While the results of investigation in pressroom waste records are not as complete as desirable, nevertheless some valuable data has been secured and published by the manager in bulletin form.

Mr. Wehmhoff's newsprint and news-ink research work has assumed definite form which, with the work yet to be done, will eventually enable the publisher to understand completely the limitations of the materials he is using. Who can venture to predict but what the results of this work might not alter the paper-making and printing processes considerably in the future?

We judge there are many ways of effecting economies of newspaper plant operation other than by a direct reduction of the payroll and the Thursday set aside on the program for this topic should bring out some valuable data.

The sessions of the A. N. P. A. Mechanical Conference thus far have been marked by a seriousness of purpose which is highly commendable. Some conventions are playgrounds which furnish a reaction from the daily grind—the same cannot be said of the A. N. P. A. Mechanical Conference.

"Visualize, Organize, Deputize, Supervise"

> "When stripped of their nonessentials and boiled down to fundamentals, the principals of management are . . . the coordination of four qualities—to be able to visualize, to organize, to deputize and to supervise."

This is the keynote of a book written by H. R. Lewis, Vice President and General Manager of the W. B. Conkey Company, Hammond, Ind. Its title is "Printing Plant Management—Its Relation to the Craftsman and the Customer." The book represents a written copy of the spoken word, as it records an address delivered before the Chicago Club of Printing House Craftsmen, and several other places. The address was so well received that Mr. Lewis gave his consent to have it published in permanent form. Its merit is already established.

We would say unhesitatingly that this book is the finest contribution to executive literature it has been our pleasure to see for some time. Since the author discusses plant management fundamentals in simple English, every mechanical executive should read it, for the simple reason that these fundamentals are applicable to the mechanical executive as well as to the business manager. In plant management there is one ultimate end in view—that of customer satisfaction. The work of the mechanical executive contributes toward customer satisfaction in the same degree as proper business management.

Worth Looking Into

Of the many copies of daily newspapers which come to the attention of the Editor of Printing Equipment Engineer we are particularly impressed with the excellent day-in-and-day-out printing of the *Chicago Daily News* in the metropolitan field.

Any reader interested in scrutinizing the fine printing of this newspaper should note particularly the use of the 75-line screen in the halftones, which is a departure from the regular appearance of 55 to 65 line screen halftones.

Benefit the Industry

The greatest recent contribution toward realization of a sane program of machinery depreciation and obsolescence in the printing industry has been made by Harris-Seybold-Potter in pledging that all equipment taken in part payment on new machinery will be consigned to the scrap heap.

Almost concurrent with this announcement we hear that R. R. Donnelley & Sons Co., in absorbing the business and plant of M. A. Donohue & Co., Chicago printers, decided to use the sledge on twenty-three old presses taken over in the deal. Among the machines in the plant were sixteen Miehle, seven Huber-Hodgeman and two Cottrell rotary presses.

Usually, consolidations wreak just so much havoc with any program of obsolescence which is designed to benefit the industry. In many instances, attempting to operate a business with thoroughly depreciated or obsolete machinery is like going to war with old-fashioned muskets. There are too many improvements in the methods of handling competition on the frontiers of modern business.

J. Horace McFarland's assertion that the printing industry is over-equipped could no longer bear investigation if more printing industry executives would emulate the action of Harris-Seybold-Potter and the R. R. Donnelley & Sons Co.

Confidence and "Intestinal Fortitude"

By MAC SINCLAIR

A GREAT deal has been said about the virtues a superintendent must possess to qualify him to discharge all obligations to his employer. To reverse the situation, not all employers possess the mental calibre necessary to recognize and develop the qualities that go into the makeup of a successful superintendent any more than every superintendent is thoroughly fitted in a mental way to discharge the duties peculiar to his position. This is a question of education.

It has been mentioned before in these columns that the superintendent is the connecting link between management and production. He is management's representative in its dealings with the human element, the successful manipulation by the human element of the productive machinery in the plant and the general supervisor of the processes and methods used in manufacturing the company's products.

H. R. Lewis, general manager of the W. B. Conkey Company, in speaking before the Chicago Club of Printing House Craftsmen, quoted from Theodore Roosevelt as follows:

> "The best executive is the one who has sense enough to pick good men to do what he wants done, and self-restraint enough to keep from meddling with them while they do it."

It may be that a certain manager, for one reason or another, does not have confidence enough in the executive abilities of his superintendent to permit him to go ahead on his own resources, simply because he has never tried a hands-off policy for fear the superintendent might make a mistake, or because the manager may be obsessed with an ungodly ego which distorts the true perspective of his own importance. How, then, can the quality of an executive's judgment be determined until he has been given an opportunity to exercise that judgment?

If a man is worthy of being appointed superintendent he ought to be accorded spontaneously all the prerogatives which should accompany his position until such time as it has been proved that he is not capable of functioning as management's representative.

The employer should not reserve to himself certain functions which belong to the superintendent and which most assuredly are his (the superintendent's) prerogatives. There isn't much logic in keeping a watch dog if you must sit up nights and do your own barking and it isn't fair to the superintendent to hold him responsible without giving him the authority necessary to place departments on an efficient basis.

The most direct route toward killing off initiative and the will to accomplish things that should be accomplished is to circumscribe the functions which are vital to the success of an executive. If an order is issued which is to be sent down the line, and it is hemmed about with *don'ts*, *ifs* and *buts*, the rank-and-file are sure to sense the situation and may cause the order to lose its effectiveness.

To function in the most complete sense, the superintendent must first obtain the confidence of his employer. It is up to the superintendent to obtain it—no one else can do it for him. There is something lacking in the administration of the superintendent who has not secured the confidence of his employer. One of the evils resulting from such a condition is that the superintendent's decisions do not settle matters which should be settled by him. He does not know whether he will receive the backing of his employer, even though he is championing a righteous cause. Very often disputes are taken from the superintendent's hands into the business office. Decisions settled by management very often breed other disputes and weaken the discipline of the working force.

Confidence by the employer in his superintendent is engendered at critical moments. Every successful

Thank You, Mr. Keating

Milwaukee, Wis., May 19, 1932.

Printing Equipment Engineer,
Cleveland, Ohio.

Gentlemen:

Please allow me to express my appreciation of the good work you are doing in the newspaper production field.

Yours very truly,

JOHN P. KEATING, *Production Manager*,
Milwaukee *Journal*.

The Importance of Confidence

Confidence of employer in employe gives the superintendent the backing to put orders into effect with the necessary "punch" to see that they are carried out. A superintendent who does not possess his employer's confidence is like a bird with a clipped pinion—he may attempt to soar with the expenditure of considerable energy but can do no better than fly in circles. He cannot attain the heights.

superintendent knows this to be true from his own experience.

On one occasion a general manager was discussing with his superintendent ways and means for reducing the weekly payroll of a certain department an average sum of $100 per week. The manager needed that amount to balance his budget somewhere else in the business and insisted a decreased payroll offered the solution to a perplexing problem. It had not occurred to him that perhaps he should have consulted the superintendent as to whether such a cut was possible without impairing the productive efficiency of the department. The superintendent asked the manager as to which weeks in the month he would apply the payroll cut—whether it would be this week or next week, and just how he would take care of the fluctuating amount of business in face of a demand for a fixed payroll decrease. He also explained to the manager that it was his custom to hire only enough workers from day to day for the amount of business on hand. Since the suggestions did not seem to receive the approval of the superintendent, the manager made some remark about not receiving the cooperation from his subordinate to which he felt entitled and that it was an unusual condition for a manager to be at the mercy of the superintendent. The superintendent told the manager that if he did not have confidence enough in his management of the plant perhaps it would be best for him to secure the services of a new executive. The manager asked: "What would you do if I sent down a peremptory order to cut a fixed sum per week from the payroll?" The superintendent replied: "I would come to you, hat in hand, and say: 'Mr. Smith, I am sorry I failed. I have done my best and the proper thing for me to do is to make room for a more efficient man.'" In this instance, the manager saw the light and instructed the superintendent to continue his good supervision of the particular department under discussion.

The fact that a certain superintendent is apparently a success does not mean, necessarily, that he is a more brainy executive or is smarter than any other man who is supposed to be as well qualified for the position. The answer is that in addition to faithfully attending to all his various duties he has had the "intestinal fortitude," together with the knack of saying the right thing to his employer at the proper moment to create that confidence which every superintendent must have before he can function efficiently. The simple motive behind his words and actions is an honest and consuming desire to be free to manage the departments under his supervision in his own way—untrammeled and unfettered by restrictions which have submerged many a blossoming executive who has not demanded certain prerogatives which are his by divine right.

Dry Mat Manipulation

By Dry Mat Bill

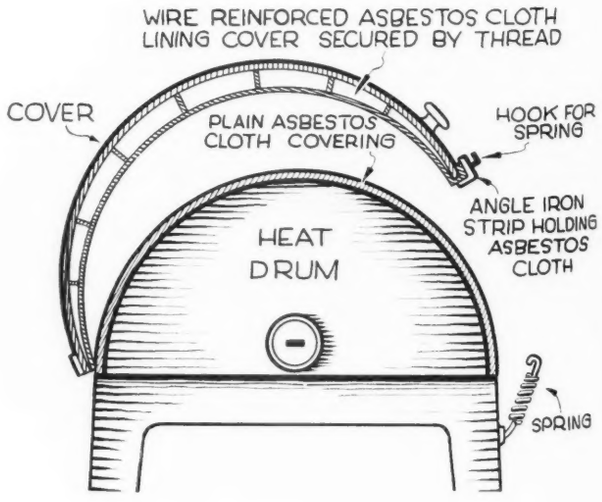
POSITIONING DRY MAT MOULD

While the positioning of dry mat moulds was discussed to a very limited extent in a previous discourse, I am taking it up again, for this operation is most important in securing satisfactory dry mat manipulation.

The greatest assets to perfect positioning is the so-called "scorcher," and yet no other piece of stereotype equipment causes more printing surface failures, loss of time and wasted effort than a poor scorcher.

In my travels over the country I have been amazed at the large number of makeshift scorchers in use. One can but naturally infer from this that the proper function of the scorching operation is not as well understood as it should be.

Every one knows that the moulding operation has a tendency to, and often does, roll the printing surface out of shape. Distortion is always present to some degree, depending upon the moisture condition of the mat, type of mat, kind of moulding cushion combination used and amount of pressure used in moulding. Not only this, but in most cases the printing surface of the form is far from being perfect, due to high and low type and borders, underlaid halftones, etc., yet the aim is to produce a plate to go on the press that will print up with the use of the smallest amount of ink and the least impression on the presses.



Regardless of the condition of the printing surface of the green mould it can be brought into a nearly perfect plane by proper handling and scorching be-

Continued on page 44

Non-Distribution Minus "Can" Storage

By LEON A. LINK*

Mr. Link Tells About System Used in Des Moines "Register-Tribune" Composing Room Which Reduces Metal Tied Up in Storage—Large Monotype Faces Are Cast on Smaller Type Bodies and Extra Depth Case Are Used—Replenishment Method for "Case Storage" Method Described in Detail.

IN THE operation of Monotype equipment in our composing room we have done two things that we think have produced excellent results. First, we do not have any "can" storage whatsoever in the composing room, and second, we cast all larger sizes of display type on smaller-than-standard-size bodies.

We are printing morning, evening and Sunday papers, 12 editions week days and 13 editions on Saturday, including the Sunday paper. All ad composition is handled in our own plant. As the type is cast it is placed into the cases by the monotype operators and the cases are returned to the type cabinets ready for the printer to set type. We call it "case storage."

We have day and night ad room crews. Most of our original composition is done on the night side. The day ad room foreman checks all the cases every day by simply pulling the case out and giving it the "once over." If he finds a case that is low he picks a cap "L" out of the case and if he finds one that is very nearly out he picks a cap "O" out of the case. When he finishes checking all the cases, which requires 15 or 20 minutes daily, he has a number of characters of different sizes, including different faces. These characters are delivered to the monotype department. The operators first line up all the "O's" in one row and all the "L's" in another. As a rule there are very few "O's." If there are some, the montoype operators gather up the cases that the "O's" represent and cast type to fill them first. If it so happens there are four different 24-point faces that need refilling, all the 24-point is cast first and then they move on to the next size, etc. We have 32 extra cases of type cast all the time. It is not a difficult thing to arrange matters so that we always have full cases to replace the ones we have removed to fill.

After the type represented by "O's" has been cast we next go to work on the cases that are low, represented by "L's." As before stated, it is an exceptional morning when we have any "O's," so it generally means that we are simply filling up the boxes in the cases that have become low in sorts.

By picking out the "O" or "L," whichever the case may be, it gives us a simple method of informing the monotype department of our needs. If there happen to be three letters of the same kind in the lot it means that three cases containing this particular kind of type are low or out. The letter also tells the kind of type, the size of the type and the lining of the character. That one little piece of type tells the complete story and saves all the time usually devoted to filling out requisitions or orders on the monotype department.

It is advisable to have one man do this checking as he gets a better idea of the needs and the work is done more accurately than when the job is passed around. We have not run out of type in any instance since inaugurating this system and we do not have tons of idle metal tied up in can storage. It is also unnecessary for someone to devote all his time to filling up the cases from the cans, the type being put into the cases by the monotype operator instead of being put into cans. In other words, it is one handling instead of two with considerable less metal tied up in can storage.

If the monotype operator is alive and on the job he will so arrange his work that mold changes will be reduced to the minimum. Every piece of type he casts will be put into the cases for the printers to use rather than being put into cans to lay there for a long time, to gather dirt and to tie up metal. I know it to be a fact that we are operating under this system with half the metal that another paper in a neighboring state has tied up and that paper is running about half the advertising that we are. Our metal is in the cases ready to be used and the other paper's metal is in the cans.

We also cast all the larger sizes of display type on smaller-sized bodies. For example, 72 point is cast on a 60-point body and the 60-point face on a 48-point body. We do this down to 36-point type. It can be done on any Giant caster by simply cutting out a little piece on the mold to allow the tails of the letter to come through when ejecting from the mold. The slot is already cut in the mold but on the 60 and 48-point mold it has to be cut about 6 points deeper. We have not had any of the tails break off under the giant mat roller because they are braced by the use of high slugs which we use throughout. These high slugs also act as an anchorage for thin stereotype casts.

Casting type this way has no disadvantages and it has many advantages. In the first place, metal is saved because 72-point type is cast with no more metal than is required for 60-point type and so on down the line. A 60-point character can be cast more rapidly than a 72-point character can be cast. Another advantage is that a better product is obtained.

This arrangement also makes it possible to get more type in the cases because a font of 72-point under this system re-

Continued on page 40

*Superintendent of the "Register-Tribune" Composing Room, Des Moines, Iowa.

Engineer Is Helpful

Printing Equipment Engineer,
1370 Ontario St., Cleveland, Ohio.

I have always read PRINTING EQUIPMENT ENGINEER and find it helpful in every way, especially so in the linotype field.

Very truly yours,
T. R. MASTERS, JR.,
Southwest Printing Co.,
917 Camp Street, Dallas, Texas.

Transferring For Offset Lithography

By FRANK O. SULLIVAN

IF THE plate is to be etched for a long run, it must be thoroughly rolled up with lithographic ink, fanned dry, and powdered lightly with resin or French chalk, applied with cotton batting. The resin or chalk protects the image from the effects of the etch.

The following etch is applied with a camel's hair brush or sponge, after the plate has been carefully washed with water: Two mixtures must be made, as follows:

Chromic acid, 1 oz.
Water, 16 oz.

Phosphoric mixture:
Phosphoric acid, 2 oz.
Water, 160 oz.

Etch proper:
Gum arabic, 8 oz.
Water, 8 oz.
Phosphoric mixture, 1 oz.
Chromic mixture, 1 oz.

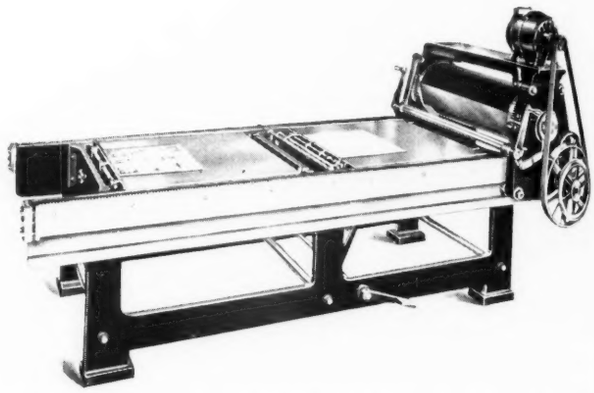
The mixture should not be allowed to remain upon the plate longer than from one to three minutes, depending upon the strength and the nature of the work. The etching solution makes the plate insensitive to ink and thereby sharpens the lines of the work and keeps them from spreading. The plate is next washed clean with water to remove the resin or chalk from the lines, and to counteract the deleterious effect of the etch upon the ink. It is then dried, either by fanning or heating. Next, wash out with the wash-out solution mentioned on page 20, April issue—asphaltum and turpentine—applied with a piece of cheesecloth. Wash off with sponge and water, rub with dampening cloth, and ink with roller charged with lithographic ink, dampening as the inking progresses.

The final pulling of proofs or transfers depends upon the mutual repulsion of water and grease, rather than upon the slight relief which the work may have. These rules should be carefully followed:

(1) On the hand proving press the plates should be inked and dampened for each impression. The dampening and inking are automatically taken care of on a stone or an offset press. If, on the hand press, the lines become surcharged with ink, pull an additional impression without inking.

(2) Use a very light pressure on the dampening cloth to avoid smearing.

(3) See that your rollers are kept perfectly clean. If you use a leather roller, scrape it each day, devoting special attention to the edges, and clean it once a week with turpentine and a fine wire brush. Scrape a leather roller only in the direction of the grain. Once a month, after scraping and cleaning with turpentine, roll the leather roller thoroughly in litho varnish, allowing the varnish to soak in over night or as long as required, when it should be scraped again. If the leather roller is not to be used for some time, clean and cover with vaselin or with any other kind of grease not absorbed by the skin. Scrape with a knife or wire brush and wash with turpentine before using it again. If you use any of the modern rollers, now being manufactured by some of the roller manufacturers, which are impervious to the solvents used on the offset press, such as turpentine, benzine or benzol, you have only to clean them thoroughly with any of these solvents.



The Fuchs & Lang Rutherford Offset Color Proving Press.—For proving progressively, color plates made for the offset press. It prints the most delicate tints equally as well as the solids. Can be operated either by hand or driven by motor.

(4) Work up the litho ink on the ink slab with a spatula. Work it from right to left with an even stroke. Start with a small amount of ink and increase the amount gradually. Never place ink directly upon the roller.

(5) Avoid soft and glossy papers for proofing or printing purposes. If you have to use them, fan the plate dry after each rolling.

(6) If you use stiff ink, roll the plate with a slow motion and with moderate pressure, since by using a swift motion you are liable to remove ink from the lines rather than add to them. If, on the other hand, you use a soft or liquid ink, go over the plate with a swift motion, as otherwise you will broaden the lines and perhaps even smear the plate. Once over the plate, give your wrist a quick jerk so that during the backward movement of the roller, a new part of the surface will come in contact with the plate. The ink should be stiffer in warm weather than in cold.

PHOTOGRAPHIC TRANSFERS

Take a clean plate and allow clean water to flow over it. If it is a small plate and is to be coated by hand, while the plate is still wet, apply the following sensitizing solution:

Egg Albumin, 2 oz.
Water, 16 oz.
Ammonium Bichromate, 45 grains
Ammonia, 2 to 8 drops.

Hold the plate in one hand and pour the solution upon it at one corner. Allow this to spread and repeat by applying at the diagonally opposite corner. The run-off from the second application may be saved, but the run-off from the first is of no value as it is diluted with too much water. This hand sensitizing

may also be done with a wide camel's hair brush dipped into the sensitizing solution and brushed over the plate, first from one side to the other, and then from the opposite sides.

The sensitizing solution, mentioned above, is mixed as follows: Pulverize the albumin and thoroughly dissolve in water, add the bichromate of ammonia, with the several drops of ammonia added. This mixture is filtered through cotton batting placed in a glass funnel and collected in a bottle. If a string is depended from the cotton into the bottle, the liquid will flow along the string and keep the solution free from bubbles.

The plate, after the application of the albumin solution, must be dried rapidly in a dark room or in a diffused light, either by heating or with a whirler, as it is sensitive to light as soon as it becomes dry. If the plate is a large one, it should be coated in a regular whirler, pouring the solution in the center of the plate while the whirler is moving slowly, and gradually working out toward the edge of the plate as the whirler increases in speed. The container, holding the solution, should be held as near the plate as possible while pouring, in order to avoid all bubbles or streaks. The plate is then allowed to remain in the whirler until thoroughly dry. It is then placed in a vacuum printing frame and the glass film or paper negative, is placed in the proper position on it, the frame closed up and the vacuum applied. It is then exposed to the rays of an arc light for from two to four minutes, according to the density of the negative used. In this

The Rutherford Plate Whirler.—This machine has been especially developed for applying sensitized solutions to the surface of zinc or aluminum plates used by the lithographer and printer. The circular aluminum whirling table, with its substantial support, helps to produce the smooth even coating necessary in photo-lithography. Various sizes of plates may be coated as the holding clamps slide in grooves.

respect the operator must use his own judgement, and he will learn from experience.

After exposure, the plate is removed and rolled up with the developing ink, thoroughly rubbed in with a piece of cheese cloth, and then fanned dry. It is then placed in a developing trough, and water, that has been slightly warmed, allowed to flow over it. The plate is rubbed gently with a piece of cotton. It will soon be evident that the ink has adhered to the lines of the design or image, but not to the background. The remainder of this operation has been fully explained in the transferring method.

The plate is now ready to be gummed up with the Gum Arabic solution, and placed on the press for printing. This solution prevents oxidization on the bare parts of the plate, and is washed off by the pressman just before he starts printing. It is also necessary to repeat this gumming-up operation whenever the press is stopped.

This solution is a mixture of Gum Arabic and water, mixed to a syrupy condition, and strained through cheesecloth. It is advisable to add a few drops of carbolic acid to keep the mixture from souring, and also to mix it up in small quantities, to insure its being fresh when used.

The foregoing applies only to black and white work, and, naturally is the first step in the commencement of offset lithography. When this has been fully accomplished by the beginner, it is not such a hard task to work from that into color work. If the beginner does not wish to add the expense of a color department and the necessary equipment, there are a number of trade houses throughout the country who will not only supply him with transfer plates, but also finished press plates in black and white or in colors. When such plates are furnished, it is only necessary to place them on the press and run off the job. As time goes on, more and more of these plate-making establishments will come into existence, and you will find that the four-color process will be the practical basis for color reproduction in the lithographing field.

Good Craftsmanship on Color Page

PRINTING EQUIPMENT ENGINEER is in receipt of a tear sheet from the Philadelphia *Record* of recent date, upon which is printed a page advertisement from Strawbridge & Clothier. The advertisement represents a good example of daily newspaper color printing. The page is printed with one color (buff) and black ink. Seven tint blocks demonstrating the different shades to be had in women's stockings are printed diagonally across the page. The register is exceptionally good on the tear sheet. The work on this page was done by the regular *Record* staff under the supervision of Barney Brill. Columbian Inks were used.

Recent Ludlow Installations

Among the newspapers who recently augmented the facilities of their Ludlow equipment by adding new cabinets and fonts are the New York *World-Telegram*, the Philadelphia *News*, and the Memphis *Press-Scimitar*.

The Worcester *Post* of Worcester, Mass., the Wall Street *Journal* of New York City, and the Spartanburg *Herald-Journal* of Spartanburg, S. C., recently traded in their old Elrods for up-to-date Elrod equipments.

May Printing Patents

Printed Copies of Patents are furnished by the Patent Office at 10 cents each. These may be obtained by addressing the Commissioner of Patents, Washington, D. C.

1,855,212. COLOR PRINTING AND CUTTING PRESS. Frank W. Adsit and Julius F. Emmel, St. Paul, Minn., assignors, by direct and mesne assignments, to Rotary Carton Machine Company, a Corporation of Minnesota. Filed Apr. 13, 1925. Serial No. 22,698. 17 Claims. (Cl. 101—179.)

5. An offset printing press including a blanket printing cylinder, means for removing the shell of said cylinder to receive larger or smaller shells, individual type and inking units associated with the cylinder and means for adjusting the units into different radial positions about the cylinder and into adjustment with larger or smaller cylinder shells to quickly and readily change the press for different size printing when it is desired.

1,855,356. PHOTO-COMPOSING MACHINE. Alexander T. Koppl, Chicago, Ill. Filed Nov. 9, 1929. Serial No. 406,085. 46 Claims. (Cl. 95—76.)

1. The method of transferring a subject from a printing plate to a sensitized plate which consists in enclosing said sensitized plate entirely within a chamber having the printing plate forming a wall thereof opposite the sensitized plate, exhausting the air from a chamber, and then causing light to pass through the printing plate to the sensitized plate.

1,855,503. ROLL CHANGER FOR PRINTING PRESSES. Bruce C. White, New York, N. Y., assignor, by mesne assignments, to R. Hoe and Co., Inc., New York, N. Y., a Corporation of New York. Filed June 20, 1923. Serial No. 646,592. 54 Claims. (Cl. 242—58.)

4. In a roll changer for printing presses, a rotary holder for mounting a fresh roll of paper in a manner to permit it to freely rotate about its axis, means located on opposite sides of the roll axis for driving the roll of paper by elements in frictional contact with its external surface, and frictional driving means for the elements.

1,855,525. WEB-FED GRAVURE PRESS. Charles J. MacArthur, Glen Ridge, N. J. Filed July 19, 1930. Serial No. 469,031. 2 Claims. (Cl. 101—151.)

1. In a web-fed printing machine, a web supply, an intaglio engraved printing cylinder for printing upon the web, means for feeding the web to the printing cylinder and around and in contact with a portion of the peripheral surface thereof so that the web travels in unison with the cylinder, means for applying ink to the cylinder, and fluid means for forcing the web into printing contact with the cylinder.

1,855,798. PRINTER'S BLANKET. Frank E. Ellis, Worcester, Mass., assignor to New England Fibre Blanket Company, Worcestor, Mass., a Corporation of Massachusetts. Filed July 12, 1918. Serial No. 244,551. Renewed Mar. 24, 1926. 3 Claims. (Cl. 154—54.5.)

1. An impression cylinder packing for printing presses comprising a plurality of felt printers' blankets, superposed one upon the other, each having on the outer surface a face layer of nitrocellulose composition which is so non-adhesive of ink as not to take wet ink from the printed paper when the surface of the paper web previously printed upon comes in contact with it; each of the blankets composing the packing being adapted to be placed uppermost with its face layer arranged to run in direct contact with the paper web.

1,855,821. SHEET TURNING DEVICE. Albert Broadmeyer, Harrisburg, Pa., assignor to The H. O. Hickok Manufacturing Company, Harrisburg, Pa., a Corporation of Pennsylvania. Filed June 10, 1927. Serial No. 197,977. 16 Claims. (Cl. 33—34.)

1. In apparatus of the character set forth, the combination with a first and second instrumentality for successively operating on sheets, of means controlled by the sheets delivered from the first instrumentality for feeding the sheets to the second instrumentality, and means for delivering the sheets from the first instrumentality and stopping them in a predetermined position for operation on by the feeding means.

1,857,114. FOLDING MECHANISM. Curtis S. Crafts, Oak Park, Ill., assignor to Goss Printing Press Company, a Corporation of Illinois. Filed Apr. 8, 1930. Serial No. 442,586. 35 Claims. (Cl. 270—77.)

1. A folding mechanism including in combination a folding cylinder, a pair of folding rollers, means carried by said cylinder for folding a group of sheets between said rollers and an eccentric mounting for one of said folding rollers for variably positioning one of the rollers.

1,856,885. BALING PRESS FOR NEWSPAPERS AND THE LIKE. Holden Valentine Rasmussen, Portland, Oreg. Filed Mar. 6, 1931. Serial No. 520,599. 5 Claims. (Cl. 100—2.)

1. A baling press for newspapers and the like, comprising a table, a press roller eccentrically supported above said table, and a lever for turning the roller downwards to a position rearwards past dead center, comprising a member substantially of U form and having its free end bent out of a plane of its inner end so as to be capable of resting against the top of the table and holding the press roller past the dead center position.

1,856,978. DELIVERY AND PACKING APPARATUS FOR PRINTING PRESSES. Arthur Terrey, London, England. Filed Apr. 15, 1929, Serial No. 354,952, and in Great Britain, Apr. 20, 1928. 5 Claims. (Cl. 93—93.)

1. Delivery and wrapping apparatus for printing presses, comprising means whereby quires or the like of single copies of the product of the press are deposited horizontally on the wrapping materials, means to deposit a predetermined number of the quires or the like in a horizontal pile and alternately, and means to pass the wrapping material around the pile and securely fasten same.

1,856,725. TYPE FOR AUTOMATIC TYPESETTING MACHINES. Frank H. Poeppelmeier, Dayton, Ohio, assignor to The Set-O-Type Company, Dayton, Ohio, a Corporation of Ohio. Filed May 26, 1930. Serial No. 455,551. 3 Claims. (Cl. 101—398.)

1. A type for automatic typesetting machines, comprising a keystone shaped casting formed with oppositely disposed grooves in its two edge portions, the outer faces of the edge portions tapering inwardly, on each side, at the same angle, from top to bottom, for the purpose specified.

1,856,515. TYPOGRAPHICAL MAGAZINE. John W. Shields, Bridgeport, Conn., and Archibald Shields, Brooklyn, N. Y. Filed July 19, 1930. Serial No. 469,008. 4 Claims. (Cl. 276—44.)

1. In an apparatus for the purpose described, in combination, a main frame member, a support therefore, means for pivotally supporting the main frame member on the support to permit it to tilt in opposite directions, means for limiting the tilting movement, the frame member being designed to receive two matrix receiving frames having grooves to receive the matrices in an aligned relation to each other, the matrices being normally retained against movement in one matrix frame by a latch device, an eccentrically mounted shaft for actuating the latch device, for releasing the matrices, when the main frame is tilted, a second latch to cover device located at the opposite end of a matrix frame, means for operating the second latch, whereby the matrices will be transferred from one aligned frame to the other.

1,856,363. PATTERN FITTING GEAR FOR MULTI-COLOR PRINTING MACHINES. Leonard I. Tuttle, Buchanan, N. Y., assignor to The Standard Textile Products Company, New York, N. Y., a Corporation of Ohio. Filed Aug. 9, 1929. Serial No. 384,620. Renewed Oct. 2, 1931. 11 Claims. (Cl. 101—248.)

1. A multicolor printing machine having, in combination a master roll; a plurality of printing rolls; a master gear; and means whereby the printing rolls may be advanced or retarded to fit the pattern being printed, the means comprising pinions engaging the master gear, and sleeves engaging the pinions, the sleeves being rotatably mounted and having means for moving the pinions longitudinally when rotated so as to impart a rotary movement to the printing rolls.

1,856,341. PAPER DELIVERING DEVICE. John B. Kohler, Chicago, Ill., assignor to G. A. Edward Kohler, Chicago, Ill. Filed Mar. 7, 1929. Serial No. 345,172. 7 Claims. (Cl. 242—58.)

1. A paper delivering device comprising a roll supporting device for a plurality of rolls of paper, a roll engaging member for engaging the roll from which paper is being delivered, means for moving the roll supporting device so that a second roll having adhesive on its face, will be moved against the web running from the first mentioned roll and pressing the web against the roll engaging device to secure an increasing pressure between the web of the expiring roll and the new roll, a holding device for holding the new roll against rotation and means for releasing the new roll when the pressure thereon reaches a predetermined among so that the roll will be quickly speeded up and the part thereof containing adhesive, attached to the web of the expiring roll.

1,856,108. SLUG PROFILING MACHINE. Charles L. Mohr, Wilmette, Ill. Filed Oct. 13, 1930. Serial No. 488,389. 8 Claims. (Cl. 90—18.)

1. In a machine of the kind described, a rotary cutter, a vise mechanism for holding a printing slug for presentation to the cutter, the vise movable from and toward the cutter and the vise mechanism movable longitudinally of the vise at right angles to the plane of the cutter, means for setting the vise in a plurality of relations in reference to the cutter for operation upon a type slug held in the vise to produce a like plurality of results, a cutter guard adapted to drop in front of the cutter at times when the vise is swung away from the cutter and means for automatically raising the guard when the vise is moved toward the cutter for cutting a slug held therein.

1,856,190. SHEET FEEDING APPARATUS. Edward R. Kast, Pearl River, N. Y., assignor to Dexter Folder Company, New York, N. Y., a Corporation of New York. Filed Mar. 8, 1928. Serial No. 260,123. 44 Claims. (Cl. 271—38.)

1. In a sheet feeder, the combination of a feed board, means for fanning out and feeding a bank of sheets along said board, floating means for preliminarily separating successive sheets, a device to be fed, suction means for forwarding said preliminarily separated sheets, and means for aligning the sheets as they are presented to the device.

1,856,307. ASSOCIATING MECHANISM FOR WEB PRINTING MACHINES. Adolph M. Zuckerman, New York, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a Corporation of New York. Filed Jan. 17, 1931. Serial No. 509,276. 5 Claims. (Cl. 270—6.)

1. In a mechanism for slitting a web into several ribbons, associating the ribbons and then severing them to form a cut product; a multiple slitting mechanism, a web cutting mechanism, and associating means between the slitting mechanism and the cutting mechanism; the associating means including guide rollers, and only one turner bar in the path of each ribbon.

1,857,221. HALF SPEED DECK AND INSETTING DEVICE. Isidor Tornberg and Hans C. Jordhoy, Plainfield, N. J., assignors to Wood Newspaper Machinery Corporation, New York, N. Y., a Corporation of Virginia. Filed Apr. 29, 1927. Serial No. 187,663. Renewed May 27, 1930. 9 Claims. (Cl. 270—5.)

1. In a printing press, the combination with a full speed web printing deck or unit, of a half speed web printing deck located adjacent to the full speed deck and parallel thereto but out of line with it laterally and longitudinally.

1,857,315. METHOD OF PROOFING TYPE SLUGS. Harley J. Migley, Chicago, Ill. Filed Jan. 29, 1930. Serial No. 424,149. 5 Claims. (Cl. 101—1.)

1. The method of taking a trial impression of a plurality of printing slugs which comprises forming the slugs of substantially type high height, with printing faces and with weakened portions within their height, grouping the slugs side by side and holding same together below the weakened portions whereby mutilation of the slugs above the weakened portions by direct contact with the holding means is avoided and at the same time multilation of the slugs above the weakened portions by pressure of the slugs upon each other is prevented, then taking a trial impression of the printing faces of the grouped slugs with said slugs in substantially type high position and thereafter reducing the height of the slugs to less than type high height by severing the slugs along the weakened portions.

1,857,605. NEWSPAPER CONVEYOR. Harold Herbert Rapley, Bedford, England. Filed Sept. 16, 1929. Serial No. 393,026, and in Great Britain Oct. 15, 1928. 7 Claims. (Cl. 198—190.)

1. A newspaper convevor comprising two convevor sections extending in different directions along which, one after the other, a continuous stream of newspapers is adapted to pass, two parallel guide elements, one upon one side of the plane of one of the convevor sections and the other upon the other side of the plane, wherein the guiding of the stream out of directional and planar alignment with the first section into that of the second is adapted to be effected by both causing its path to curve and the stream itself simultaneously to turn about the path as axis.

1,857,918. DIE PRINTING MACHINE. Ulrich Kohler, Bern, Switzerland, assignor to Hasler A. G. vormals Telegraphenwerkstatte von G. Hasler, Bern, Switzerland, a Corporation of Switzerland. File June 13, 1929. Serial No. 370,707, and in Switzerland, June 27, 1928. 5 Claims. (Cl. 101—91.)

1. A die printing machine comprising a hollow cylinder, rows of dies arranged in the said cylinder in the longitudinal direction thereof and capable of being displaced in the said longitudinal direction and of being set transversely thereto and of which a group of at least two dies in each row can be printed, the dies in each group being spaced apart and capable of being set independently of one aother, means for longitudinally guiding the rows of dies, at least two cams fixed relatively to the said longitudinal guiding means for simultaneously setting the dies to be printed from, heads at the ends of the dies, flat guide bars standing on edge on either side of each row of dies for guiding the dies independently of one another and lateral lugs on at least one of the said flat guide bars and facing the other bar, as and for the purpose set forth.

1,858,011. HALFTONE SCREEN. John G. Guevojian, New York, N. Y. Filed Feb. 5, 1930. Serial No. 425,969. 4 Claims. (Cl. 95—81.)

1. A halftone screen comprising two superposed plates of transparent material, one carrying upon its inner surface a plurality of lines of opaque material each line having an irregular course and arbitrarily spaced from any of its adjacent lines.

1,858,034. END SHEET FOLDING APPARATUS. Fred M. Brackett, Leo C. Williams, and Dietrich Danekf, Topeka, Kans., assignors to The Brackett Stripping Machine Co., Topeka, Kans., a Copartnership consisting of Edward M. Brackett and Fred M. Bracket. Filed May 5, 1930. Serial No. 449,812. 16 Claims. (Cl. 270—86.)

1. In apparatus of the character described, a support, means for moving a book across the support, means for effecting partial closure of the book while the same is being moved across the support, and means operating on the partially closed area of the book to press the margin of one portion thereof against the opposite portion.

Continued on page 36

Linotype Metal Pot Mouthpiece Lock-up

By R. R. MEAD*

Concluded from May Issue

REMOVE the mold cap from the mold that is in the casting position and with a bar inserted between the pot lever and its housing, and the pump lever bracket, bring the pot forward by hand until the mouthpiece is flush against the back of the mold *f*, Fig. 3.

The end holes of the mouthpiece should show an equal distance from the end of each thirty-em liner, *a*, Fig. 6. If they do not show properly located, either the right and left-hand pot leg bushings are transposed and will have to be changed, or the screws in the pot mouthpiece will have to be loosened and the mouthpiece shifted to bring the end holes in the right location in relation to ends of the liners. There is about 3 64 in. possible play between the mouthpiece holding screws and the screw holes in the mouthpiece to allow for this adjustment, which is more than sufficient to cover such adjustment. It is unlikely that it will be necessary to shift the mouthpiece as we have found it to be a remote possibility.

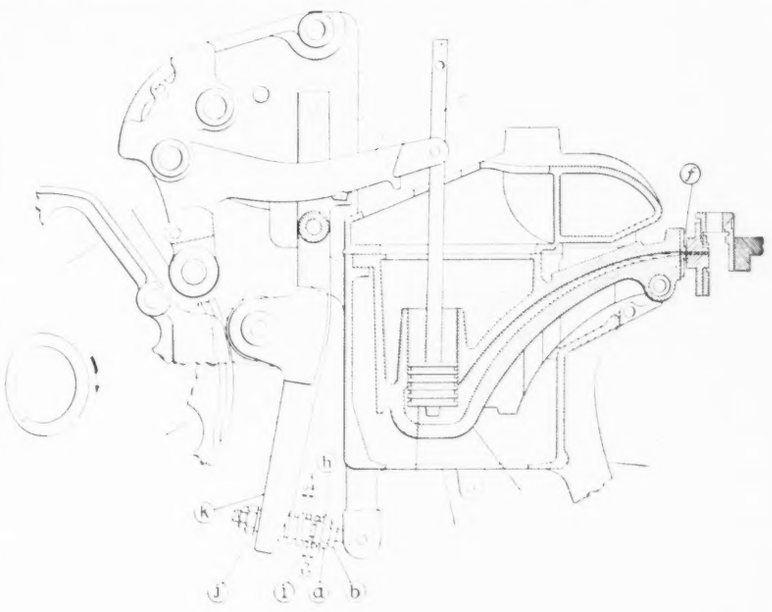


Figure 3

The row of mouthpiece holes should align horizontally with and be inside of the edge of the mold body *b*, Fig 6. This adjustment can be made by raising or lowering the pot by means of the top pot leg bushing screws, after which lock the screws in position with the jam nuts provided. Now bring up the lower pot leg adjusting screws until they just contact with the bottom of bushing (don't force the screws), then lock into position with the jam nuts provided.

If these adjustments have been carefully and properly made, we now have a permanent location, vertically and horizontally, of the mouthpiece in relation to the mold.

We next have to secure the position of the pot mouthpiece in relation to parallelism with the back surface of the mold. Ascertain that the back surface of the mold is clean, with no foreign particles thereon and that the mouthpiece is clean, smooth and true. Any roughness or projections should be removed with fine emery cloth if necessary.

By grasping the clutch arm, turn the cam shaft until the first elevator jaw descends to the vise cap. In this position, the first elevator slide lever roll will not be in contact with the first elevator cam. Loosen the vise locking stud handles and drop the vise to lowest position and release the mold slide operating lever and ejector link so that the mold slide can be pulled forward.

Apply a thin coating of red lead or prussian blue evenly distributed over the back mold surface, *f*, Fig 3, push the mold slide back into normal position, close the vise, then pull the mold disk forward so that the mold disk studs engage the locating blocks. Move the left-hand vise jaw over to the right-hand vise jaw. Using the same bar inserted as before, pull the pot forward until the mouthpiece comes in contact with the mold *f*, Fig. 3. The red lead or prussian blue that was spread over the surface of the mold back will leave an imprint on the pot mouthpiece. This imprint will show the exact bearing of the mold on the mouthpiece. Should the imprint show an unequal bearing of the mold against the mouthpiece, the front and back pot leg adjusting screws should be advanced or retarded in that direction which will throw the mouthpiece into correct location for a perfect impression. After making these set screw adjustments, throughly clean off the impression from the mouthpiece; apply another thin coating of red lead or prussian blue to back of the mold, proceed as before and make a new imprint on the mouthpiece. Continue to make these adjustments until there is a perfect imprint of the back of the mold across the face of the mouthpiece.

If, after these adjustments have been made and the imprint shows a general bearing of the mold back surface across the face of the mouthpiece with high and low spots as a result of a slight warping of the mouthpiece, it will be necessary, (using a carborundum or India oil stone) to stone or lap the high spots in order to make a perfect imprint or an exact duplicate of the back surface of the mold. Having secured this necessary condition, return the machine with all parts to normal position. The lock-up test will now have to be made under spring pressure.

The lock-up pressure and spring action adjustment is made and accurately set by the factory at 600-lb. pressure with the metal cold, by means of a specially designed pressure gauge. This pressure increases to 900-lbs. when the metal is at extreme temperature. Any greater force applied throws excessive stress on the vise locking screw point and is liable to spring the pot leg, causing an opening between the mouthpiece and the mold surface *f*, Fig. 3, thus destroying the surface contact heretofore referred to, resulting in metal squirts.

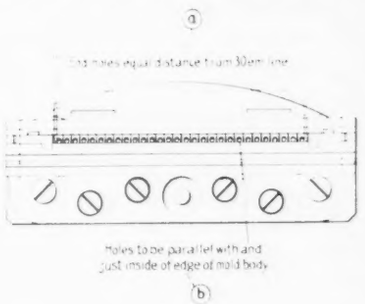


Figure 6

We have found on machines returned to the factory, in

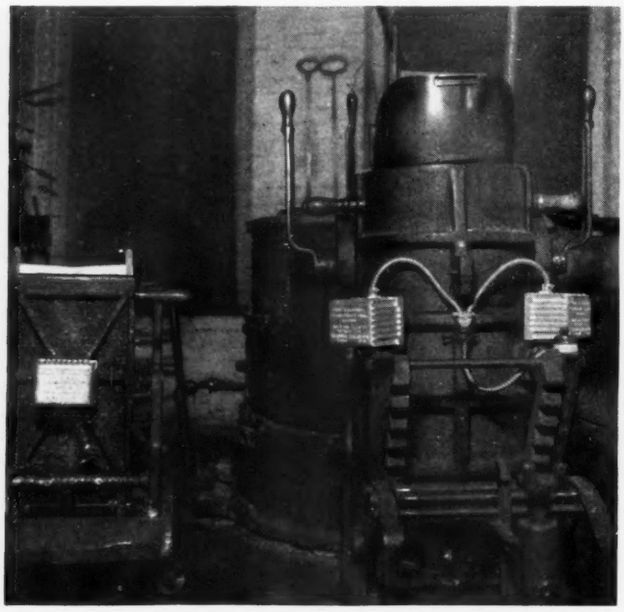
Continued on page 42

*Assistant Works Manager, Mergenthaler Linotype Co.

Vibrators for Stereo Casting Boxes

PAUL E. WHITE, a stereotyper and pressman of considerable experience in cooperation with the Frink Laboratories of Lancaster, Ohio, has developed a device which sets up a vibration in the casting box just before solidification of the molten metal occurs during the process of making a flat or curved stereotype plate.

It is claimed that this vibration sets up an agitation which breaks up the effect of surface tension on the exterior surface



Stereotype Equipment Showing Installations of the White Vibrator on Curved Stereotype Casting Box and Flat Cast Box.

of the molten metal in juxtaposition to or in actual contact with the mat, thereby causing a film of infinitesimal thickness which upon solidification takes the contour of the mat surface. This is the feature of primary importance of Mr. White's process.

However, incident to this feature the effect produced by vibration operates to "iron out" buckled and warped mats and, further, to effectively produce a uniform type-high surface over the whole area of the mat irrespective of the depth of indentions, the degree of warp or buckle.

Coincident with the conditions and benefits above mentioned, all gases are expelled while the metal is still molten, thereby producing a more homogeneous and dense cast, together with the elimination of cold shots and other imperfections.

The results are obtained by the amplitude and frequency of vibration which is transmitted through the casting box along lines and over areas with precise uniformity.

The apparatus consists of a pair of inductance type vibrators mounted upon the top portion of the casting box. The vibration of movement of the armature is produced by the magnetic flux set up by the passing of current through coils wound round a leaf magnet. The magnet is composed of leaves which are so fashioned as to form a pair of elliptical springs, these springs carrying a hammer head which strikes on an anvil rigidly fastened to the bottom of the instrument. This type of construction is well known to the electrical art and is considered to be the most permanent and efficient form of producing power and movement.

These vibrators consume about two amperes of current which is equivalent to the current consumed by five or six ordinary lamp bulbs.

The operation is as follows: Just before pulling down the pump lever the operator turns on the current to place the vibrators in operation. After the mold is filled, the vibrators are allowed to continue operating for a period of from three to five seconds, or until the metal is thoroughly solidified, after which the vibrators are shut off and the casting removed in the usual manner.

Bulletin on Press Isolation

A new bulletin has just been published on the subject of the isolation of the vibration of printing machinery. It is a most complete and up-to-date report on the subject. The economies of adequate isolation are discussed by a leading printer. There are diagrams and illustrations of typical installations and detailed instructions for installing. Copies of this bulletin are available through PRINTING EQUIPMENT ENGINEER.

Iowa Executives' Meeting

Thos. A. Kelley, Superintendent, Composing Room, Davenport (Iowa) "Times," and President of the Iowa Daily Newspaper Composing Room Executives' Association.

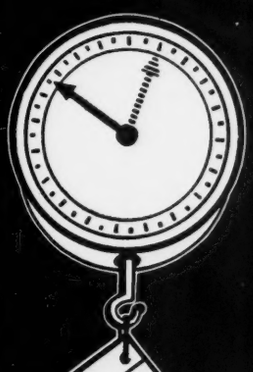
IT IS expected that the question of consolidation of the Illinois and Wisconsin Composing Room Executives' Associations with the Iowa Association will come up for discussion at the June 13-14 meeting of the Iowa executives, to be held in Ottumwa, Iowa. This proposal has been considered at previous meetings, according to Secretary Leo J. Carle of Mason City, Iowa, and it seems to be the sentiment of the Iowa organization that success has been due largely to the fact that the meetings have not reached the "convention size." The Iowa leadership feels that a large organization would make it harder for the individual to benefit from the meetings.

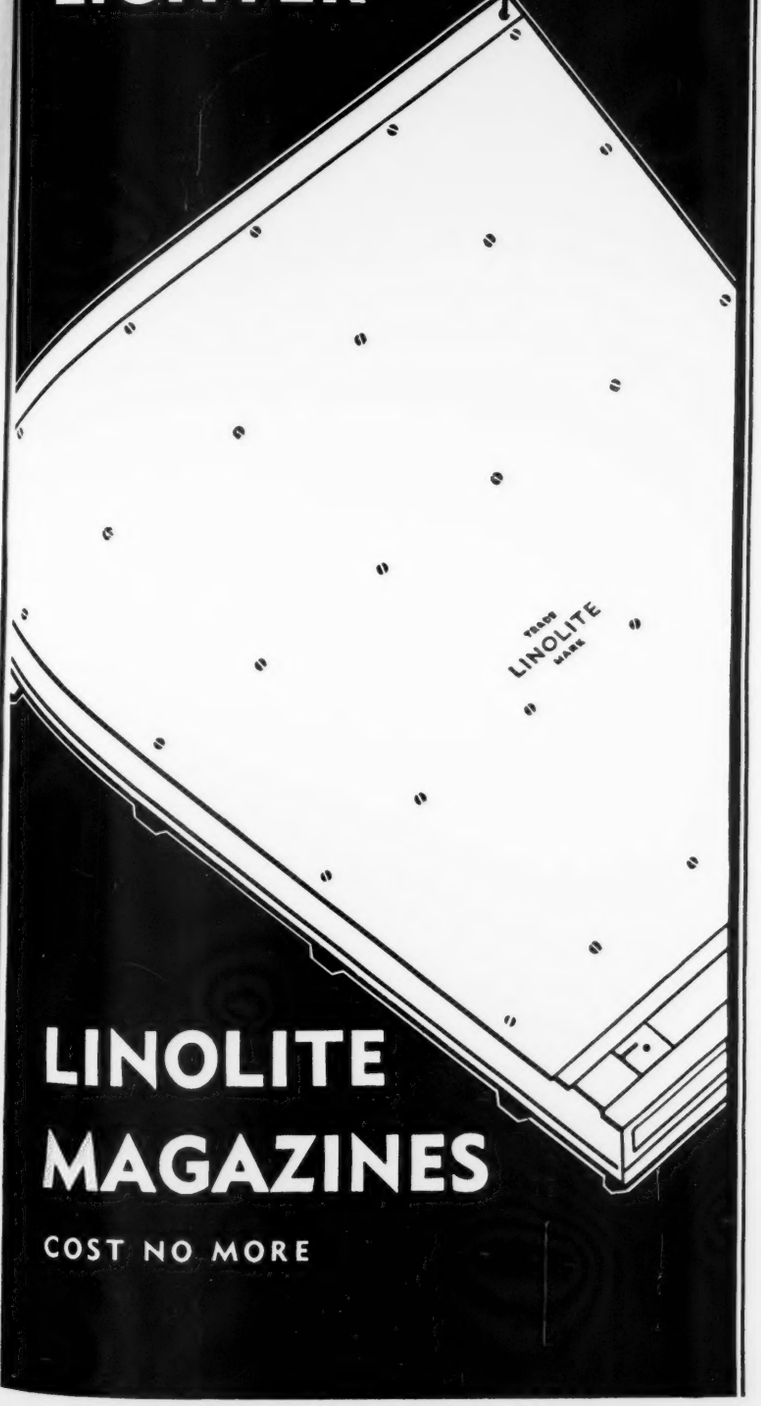
The Iowa club is the first composing room executives' organization, having been founded by Leon A. Link, Superintendent of the Des Moines *Register-Tribune*, composing room, several years ago.

The object of the Iowa organization is to discuss problems in connection with the operation of daily newspaper composing rooms. Publishers have received the benefit of ideas analyzed at the meetings.

TRADE LINOTYPE MARK

22 POUNDS LIGHTER





LINOLITE MAGAZINES COST NO MORE

The new
LINOLITE MAGAZINE
for Linotype machines
is made of a special alloy
that will wear
as well as brass
and is very much lighter.
A full length
90-channel magazine
for example,
is 22 pounds lighter
in LINOLITE
than in brass;
the magazine full of matrices
weighing no more
than a brass
magazine empty.
In stock at all agencies.

MERGENTHALER LINOTYPE COMPANY
BROOKLYN, NEW YORK
CHICAGO · NEW YORK · SAN FRANCISCO
CANADIAN LINOTYPE, LTD., TORONTO
Representatives in the Principal Cities of the World

Linotype Metro No. 2 Family

Good Newspaper Halftone Printing

By Thomas E. Dunwoody

B. V. sends a sample of a Chesterfield ad printed on the second impression of an Octuple newspaper press at a speed of about 28,000 per hour. The rollers and impression were properly set. He would like to know for his own personal benefit whether or not this is good newspaper printing and if not, what is the matter with it?

Answer: You ask whether or not the sample of a Chesterfield ad is good newspaper printing and if not what we think is the matter with it. We have noticed the Chesterfield ad running in the present campaign, but, of course, have not checked up as closely in particular as we should have in order to go thoroughly into this subject with you; however, we have observed several of these advertisements running in many different newspapers because the very nature of the illustration presents an interesting newspaper printing problem.

Perhaps we should say in the beginning that the Chesterfield ad as printed in the paper which you sent should be deemed fair newspaper printing for the simple reason that this particular paper printed this ad entitled, "My Business Takes Me All Over the World" equally as well as a majority of the recognized well-printed newspapers handled it. Under the circumstances we cannot say that this is bad newspaper printing.

In looking over newspapers from various parts of the country we note that some of these ads are smaller than others. It may be a coincidence, but as a whole the smaller illustrations print just a little better than the larger ones. This might signify that a better original plate was had on the smaller ad than on the larger one, but then I have not gone into this phase of the matter deeply enough to make that as a definite statement.

Many of the newspapers carried this particular ad several weeks ago and copies of all the newspapers received here for the date or dates in which this particular ad appeared are not available. A few days later most of the papers were carrying the advertisement entitled, "I Like a Fair Fighter," which shows a fencer with her paraphernalia and, of course, with a cigarette which is presumably a Chesterfield.

You will find that many newspapers also had trouble in printing this ad dot for dot. I mean by that that they were not able to hold the original tonal value of the halftone from which electrotypes and mats were made. No doubt the latter mentioned ad was a little easier to handle than the particular illustration we have under discussion. At least, taking a couple of dozen newspapers that contained both of these ads we find that the one entitled, "Why I Like a Fair Fighter" prints decidedly better than the one entitled, "My Business Takes Me All Over the World." Perhaps the main reason for this is that the Fair Fighter advertisement has more highlights which naturally would help in a case of this kind as we will point out later on. Contrast of tones helps considerably and when you have a comparatively large area of clean highlights the surrounding area of blacks (be they middletones or solids) does not influence the finished result as much as when you have few highlights and more middletones and more near-solids. The former type of halftone is easier to print, especially when the highlights are taken care of by good plate-making and in the original photograph or plating.

It is evident that the background in these ads is not intended to be a near-solid, but rather it is leaning toward the highlight than the solid. In other words, this advertisement is not supposed to be printed black, as we say. To get the best results in printing an ad of this kind you should have good blankets and run a fairly stiff impression keeping your color a little on the light side in comparison to what many newspapers call black today.

We are sending you some samples to illustrate what we mean. The only newspaper we have examined since starting to write you which printed this advertisement correctly in the New York *World-Telegram*. I am referring now to the advertisement entitled, "I Like a Fair Fighter." It so happens that I have not been able to find a *World-Telegram* carrying the advertisement, "My Business Takes Me All Over the World" which is really the ad we are discussing. We can, however, get a good idea as to the original halftone through examining this series of illustrations of the Chesterfield advertisements, realizing that there might be a difference in the areas of highlights, middletones, etc., but nevertheless it seems evident that the background tone in this whole series of ads is very close to the background of the Fair Fighter ad. There is a similarity between this whole series of ads. Note, for instance, "Why They Satisfy." We are sending you a copy of the New York *World-Telegram* and also a copy showing how this same advertisement was printed in a majority of the papers we examined.

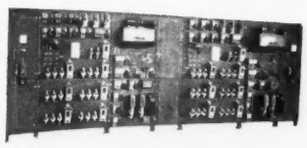
Looking through these various samples we find some cases where an effort was made to run this with bad rollers, with inferior ink, with rollers improperly set. We find in other cases the pressman trying to strike a happy medium in setting his color, some trying to get the proper print through running a light color, others trying to make a solid of this screen background through flooding. We find one newspaper printing the highlights equally as good as the best by running a little more color and getting a nicer contrast but it is evident that his blankets are in bad condition. Leaders from other plates as well as lines of type have cut into these blankets and leave their images of this illustration, thus spoiling what otherwise would be a fine reproduction.

In other cases the rollers are set too hard and wipe off the ink. One pressman was trying to print the whole page with just a light kiss impression and has tried to make up for this by running too much ink. The result is that he isn't reproducing any of the tones correctly although the highlights under these conditions would show up better than the background. In fact, the highlights in this illustration are very good. Excessive ink on one or two of the papers, however, has caused them to fill up.

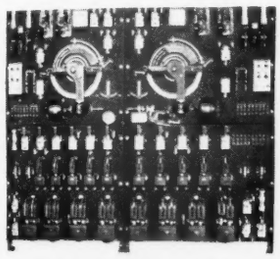
What do all these things show? If we lay aside the outstanding errors of the pressroom, such as bad rollers, blankets, insufficient impression and either cheap ink or rollers improperly set, we still have examples that show where all these things are as well taken care of as you expect, still the results are not what they should be. Some of these samples, it is seen, show that certain qualities are lost in the reproduction process and that in order to handle a subject of this kind more of the original tones must be preserved in the electrotype, the mat or in the plate-making process than is generally present in newspaper plates. The fact of the matter is that these tones are very difficult to handle in the pressroom and it is impossible to faithfully reproduce or closely approach a faithful reproduction of the original unless more quality is maintained in the mats or the plates. The pressroom just simply cannot print what is known as a black paper and hold these tones. The New York *World-Telegram* used a fair impression and cut down on the flow of ink on this page. That helped, but the chances are that there was more quality in those plates. Maintaining these particular tones is a matter of good platemaking and good presswork and all

Which Drive Do You Need

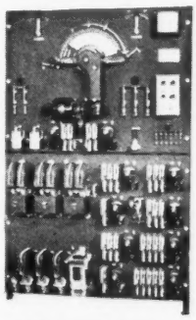
For Your High-Speed Newspaper Presses?



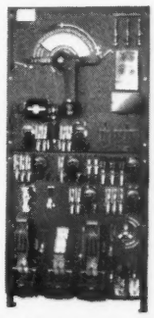
Two a-c. full-automatic, double-motor controllers arranged for parallel operation



Two d-c. full-automatic, double-motor controllers arranged for parallel operation



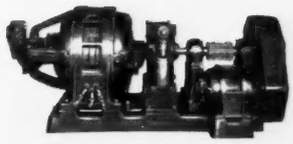
Full-automatic controller for unit-motor drives



200-hp. full-automatic, variable voltage, double-motor controller

If it's a-c.

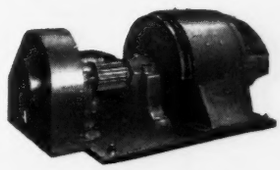
Why convert to constant-voltage direct-current power? Large-size a-c. double-motor drives are practical. There are in operation 27 General Electric 200-hp. double-motor a-c. equipments on modern metropolitan presses with full-automatic contactor-type controllers without sliding contacts. This system provides high over-all economy for high operating speeds and is practical in any capacity to meet your requirements.



200-hp. a-c. double-motor drive

If it's d-c.

Why depart from the accepted standard? The large number of recent installations attests the popular acceptance of the General Electric double-motor d-c. drive for metropolitan presses. The full-automatic control system provides all the operating features with which pressmen the world over are familiar.

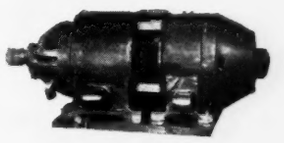


200-hp. d-c. double-motor drive

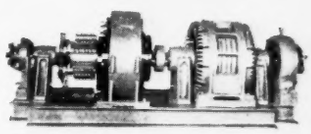
Is it unit-motor drive?

Why not eliminate the unnecessary mechanical-drive parts? The General Electric system of unit-motor drive with Selsyn electrical tie-in between press units permits the omission of drive shafts, clutches, couplings, bevel gears, and bearings and thereby reduces the daily maintenance of mechanical equipment, and in addition provides the greatest flexibility in the selection of press units.

For the plant supplied with a-c. power, the General Electric unit-motor-drive system employs the variable-voltage method of speed control, while in the plant which has d-c. power supply, the individual driving motors are designed for speed adjustment by field control.



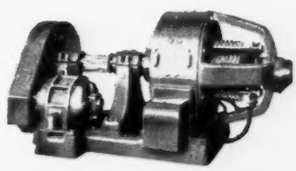
Selsyn unit-motor drive



Variable-voltage, motor-generator set for unit-motor drive system

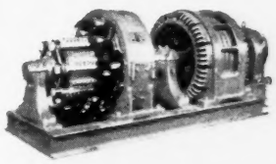
Is it variable-voltage?

Do you desire the maximum smoothness of speed control? For the plant supplied with a-c. power, the variable-voltage system provides this smoothness together with high operating efficiency over a wide range of production speeds.



200-hp. double-motor, variable-voltage drive with a-c. threading motor

Why not permit General Electric engineers to assist you in analyzing your pressroom requirements? They can anticipate the operating characteristics of the various types of drives and can recommend the system best suited to meet your specific requirements. There's a G-E office near you, and there you will find printing-equipment specialists ready to coöperate.



Variable-voltage motor-generator set for double-motor, variable-voltage drive system

200-571 H

GENERAL ELECTRIC

phases of platemaking and presswork are involved in the correct reproduction of this particular series of ads.

We reiterate, though, that according to the samples we have, "My Business, etc.," is a little more difficult to reproduce than the subject, "I Like a Fair Fighter" and say in conclusion that the particular sample you sent is as well printed as it was in other newspapers we have examined so far. It would be better on this page, though, to use a little less ink as long as you have the right plates, the right inking and the correct pressure to keep this tone of your subject, the background particularly, clean and sharp.

Since writing the above we have secured a copy of the *World-Telegram* in which the ad entitled, "My Business Takes Me All Over the World," the particular ad which this discussion is supposed to cover, and if you will note, the *World-Telegram* succeeded in keeping the screen in the background wide open and printed it dot for dot. It is the only daily paper we have seen so far to do this but, of course, we take it for granted that others succeeded also. It just goes to show that our contention regarding the original halftone is correct and, further, gives us an idea of the degree of departure from the original which the average newspaper makes.

Obsolescence—and a Reason For It

By NORMAN G. STELTZ*

THE prisons today are full of men committed for petty thievery. In many instances employees have been caught stealing a few dollars or small articles of little value. To their employer this was enough for him to enter charges against them. But this same employer will go along years after year *having thousands of dollars taken from him because* his trust is improperly placed in his foreman or superintendent.

But how are we going to convince the publisher of these facts? He has explicit faith in his superintendent. His superintendent knows the game thoroughly and the employer is fully convinced that his superintendent is a good one.

Many publishers do not fully understand the duties of a superintendent and more superintendents do not understand, and in many instances, are not capable of performing the duties of a superintendent.

To my way of thinking the superintendent should be the one to take the entire load from the publisher's shoulders. He must be interested in his work—not alone from a financial standpoint—and he should find a lot of pleasure in his accomplishments.

A superintendent's duties are many—all with only one object in view—making money for his employer by a direct saving on the pay roll and other expenditures. This can be done by keeping the plant up to date; by knowing how to reduce maintenance costs; by increasing production; by eliminating unnecessary employees; by efficiency methods; by discarding out-of-date machinery (even though it is still in good condition).

Even the manufacturers of printing machinery often overlook time-saving devices that could be applied to their own machines before selling them. For instance, in our own plant a material-making machine required constant watching by the operator, because it was necessary for him to drop a pig of metal into the small metal pot about every two minutes. The problem was solved by constructing an auxiliary pot which feeds melted metal into the regular pot. This auxiliary pot needs attention only once an hour as it holds 300 lbs. of metal.

We also had but one small metal saw in the composing room. On busy days the ad men would be lined up in a row waiting to get at this saw. We have three now—and save more than $50 a month in time. However, in the sawing of long ends from material it was noticed that if the waste part was more than 3 in. long, it would clog the small chute which is provided to carry away the surplus trimmings. This was time lost again, because the waste metal backed up the chute and clogged the saw. I closed the chute, and provided another to carry the waste metal (no matter how long) from the side into a receiving box.

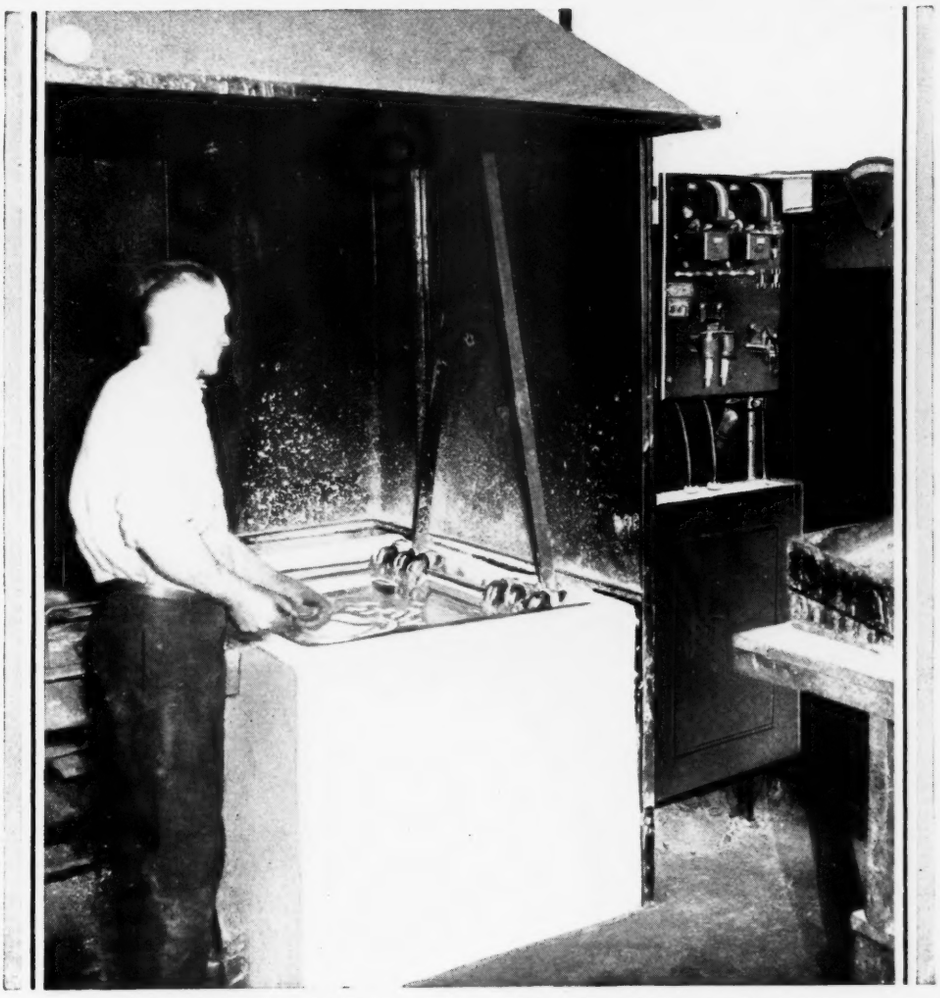
Many superintendents do not recognize the abilities of those working for them. Many good employees are placed in wrong positions. Frequently the reason for this is "just because that man always did handle that job" and the thought never entered the superintendent's mind to find out if some other employee could not do the same job as good or better in less time.

I have in mind a certain afternoon newspaper, the personnel of which was having a lot of trouble getting out a 16-page paper. The paper was always late and on the big day of the week (Friday) when the paper usually contained 20 pages it was an "evening" paper in reality. Today that same paper, with a smaller number of employees, but with a new superintendent, is always on time and some days the paper contains as high as 30 pages. That is not all, for this same paper now has a pay roll saving of hundreds of dollars a month, plus system, plus harmony.

Recently, while on a trip, I stepped into a newspaper plant to look it over and the manager, before introducing me to his superintendent, was telling me what a good man he had and that he had been with him for twenty years. The minute I started through the plant Old Man Obsolescence greeted me. The operators seemed to be operating their machines from the rear end—due to many distributor stops. The machines were otherwise in terrible condition. Seven machines were being operated. Five machines in good condition would produce much more type. The scale in that city is $48, hence there was an unknown weekly loss of $96 right there. The reason: The superintendent did not check up on the machinist and have him correct the faulty machines, and the machinist evidently did not care. Pay day came just the same.

How are we going to eliminate Old Man Obsolescence when so many publishers "think" their superintendents and foremen are capable men?

*Superintendent, *Times-Herald* Corporation, Olean, N. Y.



An electrotype bath changed over to electric heat by suspending six G-E heating units over the side

What a difference ELECTRIC HEAT makes in a printing plant!

No need to change over the whole plant at once. Why not start by installing one of these G-E electric melting pots for flat- and job-casting? Write for booklet GEA-164C.

BETTER plates — reduced spoilage — less waste in metal — clean, quiet, comfortable working conditions — the kind of environment into which you're proud to bring visitors — the kind of plant that builds a reputation for progressiveness and uncompromising work.

General Electric furnishes handy little units which can be immersed, screwed in, or clamped onto your present fuel-heated pots, baths, tables, etc. to change them over quickly to electric heat. Ask your nearest G-E office to tell you the surprising details.

570-171

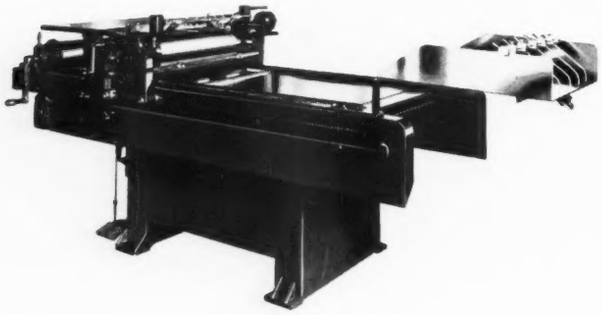
GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

Latest Printing Equipment Mechanisms

New Vandercook Press

Vandercook & Sons, Inc., have placed on the market a power-driven proof press large enough for a newspaper page. This new machine is equipped with automatic delivery and automatic inking system with drum type ink fountain.



Ink is taken from the fountain drum by means of a rubber ductor roller that travels the entire length of the twenty-inch ink plate.

The delivery table swings up out of the way when sliding form on or off the press.

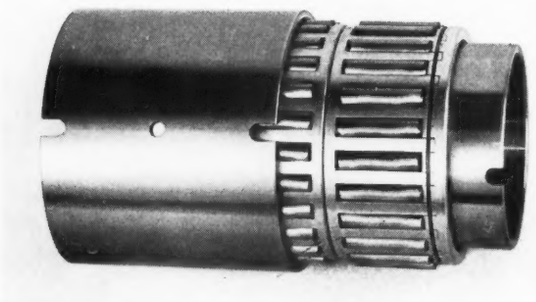
The press operates at a speed of 1000 proofs per hour.

Bantam Bearings for Presses

The Bantam Ball Bearing Co., South Bend, Ind., has announced a new roller bearing for cylinders of printing presses.

The bearing shown is used on plate cylinders and impression cylinders of newspaper printing presses, which has made possible, it is claimed, the increase speeds and consequent large production of newspapers which was unheard of with the older types of bearings.

One cage has twenty-three rollers and the other cage twenty-four rollers—giving a "hunting tooth" effect toward the elimination of synchronized vibration of cylinders at



high speed, each cage operating entirely independent of the other, eliminating bearing fight or twist.

The rollers and races have a lapped finish, the same as that of rollers in free-wheeling units, which greatly reduces wear of the rollers and races. All rollers and races are made of High Carbon High Chrome Special Bearing Steel, hardened and heat treated in modern Electric Heat Treating equipment.

This type of bearing can be made for very limited space, rollers ½ in. in diameter and races with ¼ in. wall thickness being very generally used on the largest newspaper presses in this country and Canada.

Chuck Eliminates Core Account

The Oneida Chuck, manufactured by the John Waldron Corporation of New Brunswick, N. J., makes possible the use of paper stock wound on spiral or straight paper cores. In the case of plain straw cores, the cost is so little that they are not worth returning and by the use of the Oneida Chuck a grip is obtained on the inside of the paper core itself, thus entirely eliminating the need of metal-end or steel cores.

Many of the large newspaper and printing plants using presses with removable arbors have succeeded in avoiding the "core account" with its attendant expense by utilizing the Oneida Chuck for unwinding paper from the rolls.

Cambridge Printers' Moisture Indicator

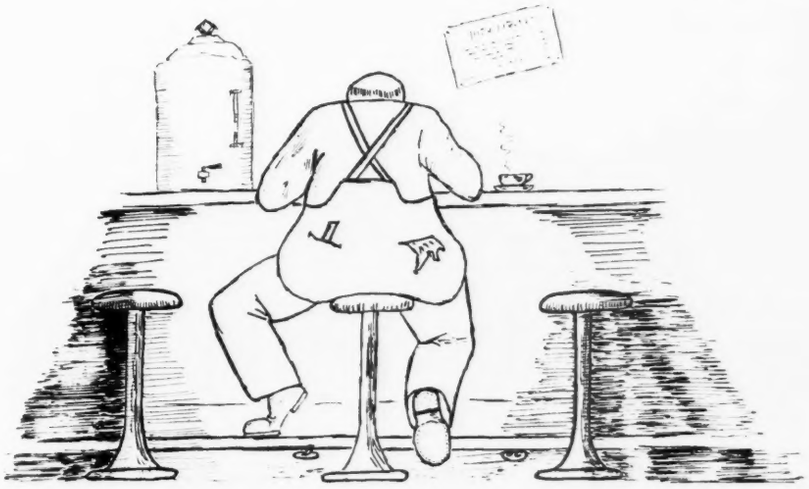
A printers' moisture indicator has been developed by the Cambridge Instrument Co., Inc., 3732 Grand Central Terminal, New York, N. Y.

The accompanying illustration shows the device which should be very handy for determining the moisture condition of shipments of paper received, checking conditioned paper after it has been run through the press before rerun and

ready check of room air conditions. The moisture content of paper is accurately determined by weighing a sample, drying and weighing again, but this takes time. The air locked between the sheets of a stack takes on a relative measure of moisture comparable with that in the sheets. This instrument is made up for thrusting into a stack in a blade form with the moisture-sensitive element inside. The perforations admit of air circulation. Varying concentrations of moisture affect the length of this element, which is indicated by a pointer on a scale in the handle. The scale is graduated in per cent Relative Humidity from 20% to 80%. A red reference pointer is also provided which may be set manually by means of the knurled screw on the face of the handle for checking previous readings. Readings may be obtained in 15 to 40 seconds. These instruments may be kept in calibration by comparing them occasionally with a fixed instrument, such as was illustrated in Fig. 1, Part I of M. E. Hanson's series, "Humidity—Moisture in Atmosphere," March, 1932, issue of PRINTING EQUIPMENT ENGINEER.

Newsprint Roll Lifter

To meet the demand for a light weight, compact machine the Economy Engineering Company, 2635-53 West Van Buren St., Chicago, has recently announced an improved type of newsprint roll lifter. This device, being available in designs both hand operated and motor driven, is equipped with ball



COVERAGE!

Several large users of Columbian Inks have definitely proven that from 15% to 20% more pages per pound were printed with Columbian inks than any other ink previously used.

You will also be surprised at the improved appearance of your sheet after using:

COLUMBIAN INKS

THE L. MARTIN COMPANY

45 EAST 42nd STREET NEW YORK, N.Y.

ARTHUR S. THOMPSON, MANAGER.

Wood Service Men Are Solving Problems

IF you are confronted with problems which prevent you from printing a better newspaper, call upon us to join in the effort to locate causes and remedies.

Our Service Men are well posted because of their contacts with problems in so many newspaper plants. Their experience and knowledge have not been gained solely in stereo rooms, because they are backed by our Research Department with its facilities for conducting tests and experiments. Therefore, they may be able to find the answer in your case.

Drop us a line indicating that you will welcome a call—"but with no obligation." Our men are eager to serve.

WOOD

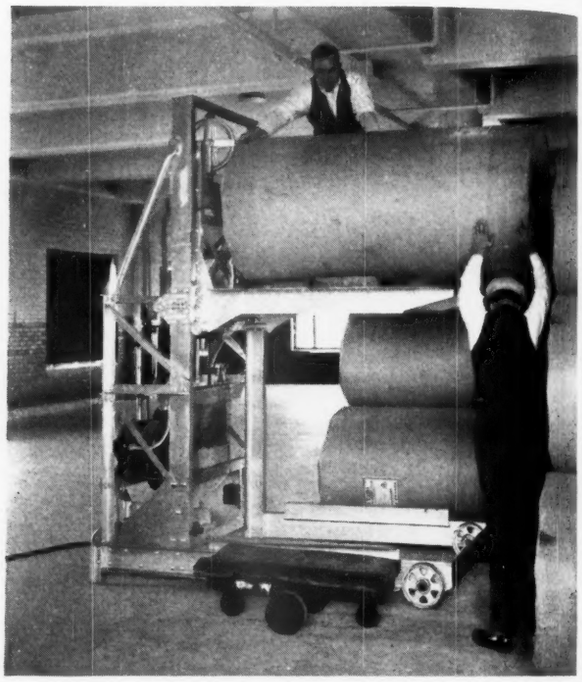
FLONG CORPORATION
HOOSICK FALLS, N.Y.

WOOD DRY MATS
ALWAYS UNIFORM

bearings throughout, providing the utmost ease of cranking in the former and greater platform speed in the latter.

The electric machine is furnished with either a ½, 1, 2, or 3 h. p. motor, depending upon the speed of travel desired. The load, in the electric type, is controlled in both the up and down directions by the motor, which is a high-torque reversing design.

Available in whatever height is desired to permit the piling of rolls two, three, or four high, these machines are of 1500 or



2000 lbs. capacity. The heavier capacity is capable of handling 72 in. long rolls. The photograph represents an installation in the Brooklyn plant of the New York *Times*. Special devices prevent descent of platform should the cable at any time break or part, or the current fail while the platform is in motion.

Being of steel throughout and properly designed, the machines are very sturdy, and yet light enough to be moved about readily from place to place.

New Intertype Specialties

In order to trim slugs to fractional point sizes a new style detent for setting the knife block for a quarter-point trim is now available. This detent, which comprises a new blade and bracket, can readily be applied to the standard knife block.

The new detent has four setting edges or blades built into a solid unit which can be lifted and rotated to bring a quarter, half, three-quarters or 1-point blade into register with the grooves in the knife block dial.

A Manual Right-Hand Vise Jaw Closing Attachment is now available for casting full lines without spacebands.

In order to permit slugs to be cast in narrow measures or tightly-filled lines, a justification stop has been provided in the form of a manual push-rod arranged to slide in the right-hand jaw block.

To cast from a loose line or a line set nearly full without spacebands (say up to 1½ ems looseness) it is only necessary for the operator to press in on the push-rod. This checks the rise of justification so that the pump stop will not be operated, and at the same time holds the right-hand vice jaw tightly against the end of the line. After the cast a return spring brings the jaw back against its stop.

This new device, which comprises a special jaw block with the push-rod and jaw return spring fitting can be readily applied to standard machines.

Don't Throw Money Away on Rollers

MEMBERS

American Printers' Roller Co.
1332N.HalstedSt.,Chicago,Ill.

Bingham Brothers Co.
406 Pearl St., New York, N. Y.
Philadelphia, Pa.
Baltimore, Md.
Rochester, N. Y.

Sam'l Bingham's Son Mfg. Co.
636 Sherman St., Chicago, Ill.
Cleveland, Ohio
Des Moines, Iowa
Kalamazoo, Mich.
Nashville, Tenn.
Atlanta, Ga.
Detroit, Mich.
Kansas City, Mo.
Pittsburgh, Pa.
Dallas, Texas
Indianapolis, Ind.
Minneapolis, Minn.
St. Louis, Mo.
Springfield, Ohio
Cincinnati, Ohio

California Ink Co.
426 Battery St., San Francisco, Cal.

Chicago Roller Co.
554 W. Harrison St., Chicago, Ill.

Dry Climate Ink & Roller Co.
1530 Blake St., Denver, Colo.

Globe Printers' Roller Co.
154 Purchase St., Boston, Mass.

Godfrey Roller Co.
211 N. Camac St., Phila., Pa.

Harrigan Roller Co.
311 Guilford Ave., Balt., Md.

W. F. Isley & Co.
Greensboro, N. C.

Milwaukee Printers' Roller Co.
420 S.4th St.,Milwaukee,Wisc.

National Roller Co.
307 Pearl St., New York, N. Y.

J. H. Osgood Co. Inc.
29 Purchase St., Boston, Mass.

Frank A. Reppenhagen
339 Oak St., Buffalo, N. Y.

J. S. Robertson
Montreal, Quebec, Can.

Sinclair & Valentine Co. of Canada, Ltd.
Toronto, Canada

Wild & Stevens, Inc.
5 Purchase St., Boston, Mass.

Wortman Roller Co.
1212 Race St., Cincinnati, O.

IT has been done, and still is. Rollers are a part of the press equipment. Without them the press is useless. Rollers should be purchased for the work they are to perform, not because of sales arguments such as they will not melt, are not affected by atmospheric changes, will run continuously at sixty thousand an hour, and numerous other claims. These are the arguments advanced in favor of rubber rollers replacing composition rollers on newspaper presses, regardless of the edition of the paper, the length of time per day the press is operated, whether or not the press is designed for the use of rubber rollers, or the speed at which it runs warrants the cost of rubber rollers.

Rubber rollers have advantages in the pressrooms of large metropolitan dailies that are not air conditioned, and where the presses are operated at fifty to sixty thousand an hour; but for smaller edition papers, a complete press equipment of rubber rollers is money thrown away. Their initial cost is many times that of nonmeltable composition rollers or the seasonal composition rollers. Rubber rollers swell, and the cost of grinding and polishing more than equals the price of composition rollers. Composition rollers may shrink slightly but the adjustment in the roller sockets is sufficient to take care of the shrinking. There is but one cost for either type of composition rollers — the initial cost. The older style presses have open sockets, and when equipped with rubber rollers their hardness causes them to bounce over the form, resulting in unsatisfactory printing. There are other special problems that rubber rollers have created, which make them too costly for use in the average newspaper pressrooms.

The members of this Association manufacture and sell rubber rollers, but they know when and where to recommend them. Consult your local roller maker before purchasing rollers.

Send for a copy of our book "A Better Understanding of the Composition Roller." It is free to all users of Rollers and can be obtained from any member of the Association.

GOOD ROLLERS
CREATE
GOOD IMPRESSIONS

N.A.P.R.M.

INCORPORATED 1918

THE NATIONAL ASSOCIATION OF PRINTERS' ROLLER MANUFACTURERS, INC.

Advertising Department

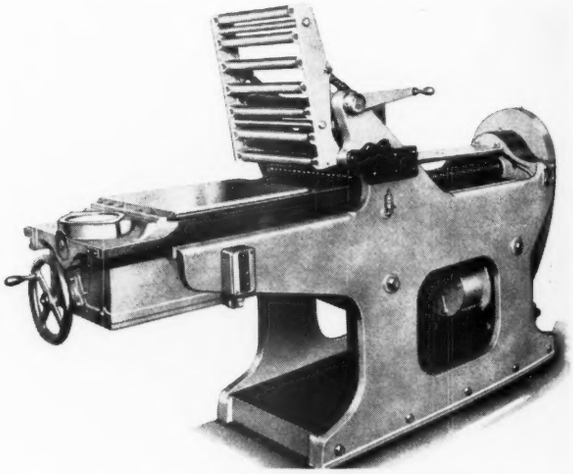
P. O. Box 1163, City Hall Annex, New York, N. Y.

REDUCED PRICES
ON
FUZON
PREPARED
PACKING FELTS
5c
PER SHEET
IN
ALL GAUGES
OR
CUT STRIPS
•
SUPERIOR CORK
MOLDING
BLANKETS
•
American Publishers' Supply Company
P. O. Box 131, West Lynn, Mass.

New Hoe Flat Plate Shaving Machine

R. Hoe & Co., 138th St. and East River, New York, New York, make announcement of a new flat plate shaving machine.

This machine is of extra-sturdy single-screw design. The moving table slides on side frames, giving a larger area for

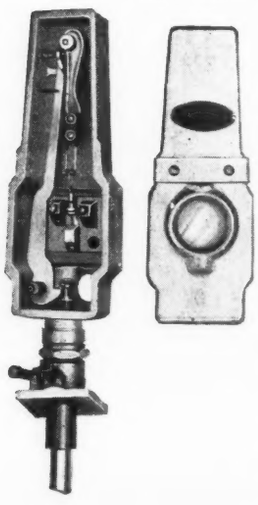


wear, eliminating gibs and other adjustments. The table adjustment is equipped with automatic back-lash take up. A new design, direct-reading dial gauge indicates the exact thickness of the plate after shaving. A set of holding down rollers extends full across the plate in close proximity to the knife. Rollers are individually spring loaded, and are hinged to allow the unobstructed return of plate.

In the illustration the holding down rollers are shown in raised position. These rollers are used only to prevent buckling when thin plates are being shaved. To prevent buckling when shaving thin plates, another holding down arrangement, consisting of a series of spring seated rollers operating in ball-bearing and spaced along the length and width of the table, is dropped into position.

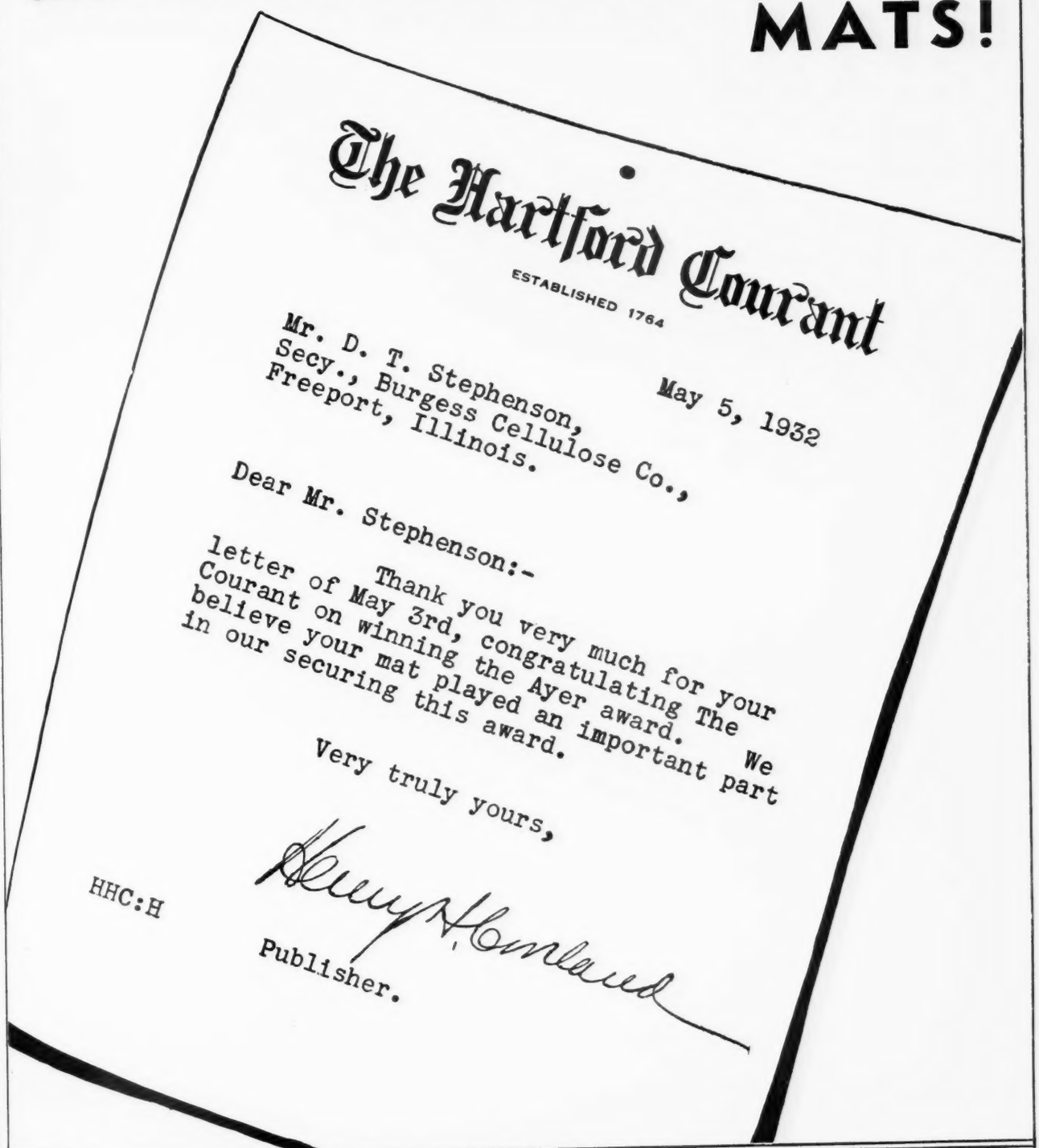
The knife is moved in and out of operating position automatically by a solenoid to clear the work on return trip of the table. Plates as thin at 1/16" thickness can be shaved accurately and without buckling. This new Hoe Shaving Machine shaves up to .030 of an inch in one cut. While this is considerably more than stereotype plates require, it demonstrates clearly the cutting range of this machine. A ten-horse-power motor with built-in brake drives the machine through a triple roller chain. Push button control. Anti-friction bearings throughout.

New Electric Thermostat Control



The thermostat control illustrated is for application to Linotype and other heating pots. Heat regulation is made possible to within 5 deg. by turning a rod attached to the thermostat body a small amount to right or left. There are only two moving parts in the assembly and there is nothing that can burn out. A small bracket is attached to the top of the pot and is located in position and fastened by four 8-32 screws. After the bracket is applied according to a blue print furnished with the thermostat, the bracket is used as a jig to drill a ¾-in. hole in the pot cap, through which the thremostat stem passes into the

What *The Hartford Courant thinks of* BURGESS CHROME MATS!



The Hartford Courant

ESTABLISHED 1764

May 5, 1932

Mr. D. T. Stephenson,
Secy., Burgess Cellulose Co.,
Freeport, Illinois.

Dear Mr. Stephenson:-

Thank you very much for your letter of May 3rd, congratulating The Courant on winning the Ayer award. We believe your mat played an important part in our securing this award.

Very truly yours,

HHC:H

Publisher.

BURGESS CELLULOSE COMPANY

Division of C. F. Burgess Laboratories, Inc.

FREEPORT, ILLINOIS

Imperial 100% in Cincinnati

IN CINCINNATI, Imperial Type Metal serves the Cincinnati Enquirer, Cincinnati Post and Cincinnati Times-Star*—all efficiently equipped metropolitan dailies. This is only one of the many cities throughout the United States where all newspapers in the city have been IMPERIALIZED.

There is an excellent reason why these newspapers select Imperial Type Metal and the Plus Plan to service their type metal. Imperial keeps their metal in first class condition at all times. It minimizes machine and metal troubles. It produces cleaner and better looking sheets and it lowers type metal costs.

Mechanical executives attending the conference at Cincinnati have the opportunity of asking those in charge at these three newspapers their opinion of Imperial Type Metal and the Plus Plan. We feel sure any of the above will be glad to tell you why they

stick to

Imperial METAL

THE IMPERIAL TYPE METAL CO.
Philadelphia · New York · Chicago · Los Angeles

* Newspapers are arranged alphabetically.

crucible. Wiring is connected through the machine frame to the control box to replace the wiring from the discarded control mechanism. Further particulars may be obtained from the Linotype Parts Corporation, 270 Lafayette St., New York, New York.

New Cabinet by Ludlow

The Ludlow Typograph Company announces a new double-pull twenty-case matrix cabinet, here illustrated. The cases pull from either side, this providing positions for two compositors to work at the same time, the space drawer at the front being equally accessible to both.

This new cabinet provides cases for four more fonts than the sixteen-case double pull cabinet formerly offered. It has

the sloping top which characterizes the other new Ludlow cabinets, affording make-up space or storage for sticks or other accessories. An overhead light and an adjustable copy holder can be applied to this cabinet if desired.

Printers' League Organized

"National Business Recovery Depends on the Printing Industry" was the keynote of a convention of commercial printers held in Chicago, Ill., April 15 and 16, at the Great Northern Hotel.

The purpose of the convention was to organize and form a trade association whose purpose would be to unite the entire printing industry.

The objects of the National Printers' League are: To cooperate with all government departments—Department of Commerce, Department of Public Printing, United States Chamber of Commerce, etc.; to cooperate with all trade associations in all major industries; to assist member firms in getting more business, and to inaugurate a national advertising campaign, using all media to revive general business nationally.

The officers are as follows: President, Wm. H. Trimmer, Trimmer Printing Co., York, Pa.; First Vice President, Alfred M. May, Alfred M. May Co., Cincinnati, Ohio; Second Vice President, W. H. Zilly, Lombard Spectator, Lombard, Ill.; Secretary, Walter H. Sutter, Tattera-Typographer, Chicago, Ill.; Assistant Secretary, Lester W. Brown, The Berry Press, Baltimore, Md., and Treasurer, G. Wayne Brown, Record Ptg. Co., Butler, Pa.

TIME ROLLS ON

THAT vast chasm since the beginning of Time down to the present day has been bridged by "Printing." It is the eyes and ears of the World.

Rollers are an essential element in successful printing, but have not been given the consideration accorded other mechanical factors and materials used in the production of printing. This may be due to the fact that rollers are not ordered for every run as the other component parts of a printed job are. Good rollers mean just one thing—*good ink distribution.*

The right roller to use depends on the kind of work you are doing, and the conditions under which you are operating. If you are turning out sixty thousand impressions an hour in a pressroom that is not humidified, rubber or non-meltable composition rollers should be used. If the pressroom is air-conditioned, regular composition rollers are the most economical. Excessive speed under trying atmospheric conditions is the only real reason for the use of rubber rollers. Their first cost is high, and the regrinding costs are quite an item of pressroom expense. With the non-meltable composition rollers, their first cost is their only cost. We manufacture both rubber and composition rollers.

The National Association of Printers' Roller Manufacturers, Inc., have issued a book "A Better Understanding of the Composition Roller." Send to your local roller maker for a copy. It is free.

BINGHAM BROTHERS COMPANY

(FOUNDED 1849)

ROLLER MAKERS

Member

N.A.P.R.M.

Incorporated 1918

406 Pearl Street . . . . . NEW YORK
521 Cherry Street . . . . PHILADELPHIA
980 Hudson Avenue . . . . ROCHESTER
131 Colvin Street . . . . . BALTIMORE

MACHINE CAST PRINTERS' ROLLERS
B&Co
ESTABLISHED 1849

May Printing Patents

Continued from page 20

1,858,075. PAPER DELIVERY MECHANISM. FRED B. COLE, Norwalk, Ohio, assignor to Rotary Printing Company, Norwalk, Ohio, a Corporation of Ohio. Filed Sept. 15, 1930. Serial No. 481,871. 5 Claims. (Cl. 270—79.)

1. Combination of a rotary drum over which a web of paper may pass, means for rotating it, a hollow guide pivotally mounted adjacent the drum having a comparatively wide entrance mouth and a discharge mouth, standards pivotally supporting the guide, a rock arm on the guide, a pulley rotatably connected with the drum, a crank driven by the pulley, and a pitman connecting the crank and rock arm.

1,858,121. TYPOGRAPHICAL MACHINE. ANTHONY J. STOUGES, Queens Village, N. Y., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed Jan. 4, 1930. Serial No. 418,466. 9 Claims. (Cl. 199—32.)

1. In or for a typographical machine, the left-hand finger of a line transfer carriage comprising an upper fixed section and a lower section hinged thereto, the sections being formed both above and below the axis of the hinge with cooperating non-resilient bearing surfaces, for the purpose described.

1,858,305. PRESS CYLINDER. CHARLES A. MEISEL, Milton, and JOHN P. E. NELSON, Quincy, Mass., assignors to Meisel Press Manufacturing Company, Boston, Mass., a Corporation of Massachusetts. Filed June 14, 1928. Serial No. 285,319. 13 Claims. (Cl. 101—415.1.)

1. A cylinder having a recess defining an edge, the cylinder including a peripheral segment pivotally mounted between its ends and having at one end an edge over which a covering may be secured presented in close opposition to the edge of the recess and at its other end formed to cooperate with the adjacent surface of the cylinder to provide a substantially continuous cylindrical support for such covering, and releasable means underlying the other end and acting directly thereon for forcing it outwardly into position with the surface of the segment lying at the surface of the cylinder.

1,858,436. AUTOMATIC SIDE CONTROL FOR ROLLS. CHARLES A. DICKHAUT, New Brunswick, N. J., assignor of John Waldron Corporation, New Brunswick, N. J., a Corporation of New Jersey. Filed June 18, 1930. Serial No. 461,891. 20 Claims. (Cl. 242—76.)

1. In a device for adjusting the paths of a plurality of traveling sheets, each having an associated roll, the combination with said rolls of individual fluid-operated means for adjusting the position of the rolls and means common to the fluid-operated means for maintaining the pressure thereof.

1,858,449. INTAGLIO INK COMPOSITION. GEORGE D. KNIGHT, Redwood City, Calif., assignor to Emory Winship, San Francisco, Calif. Filed Apr. 16, 1928. Serial No. 270,585. 1 Claim. (Cl. 134—36.)

A quick drying ink for use in intaglio printing of relatively high fluidity and a degree of homogeneity sufficient to cause it to enter and be retained in the depressions of a hard metal intaglio printing form after wiping thereof and to be withdrawn from said depressions by paper without spreading on or excessive penetration in said paper, consisting entirely of a syrup of an asphaltic base and a hydrocarbon solvent, a syrup of dextrine and water in the ratio of approximately three parts of said asphaltic syrup to one part of said second named syrup and pigment.

1,858,621. PAPER FOLDING MACHINE. CHARLES H. GUNN, Burlingame, Calif. Filed Sept. 2, 1930. Serial No. 479,156. 10 Claims. (Cl. 270—61.)

1. A paper folding machine including transversely spaced ledges forming supports for a sheet of paper along its side edges, a platform between and lower than the ledges, oppositely facing grooves extending lengthwise of the ledges, and being formed under the ledges at the level of the platform, and means for engagement with the sheet between the ledges to press the same down onto the platform, whereby the sheet is bent and the portions of the sheet originally resting on the ledges project upwardly; and to then force the sheet at the bends into the grooves whereby to cause those portions to be folded onto the main body of the sheet.

1,858,633. ROTARY DEEP IMPRESSING PRINTING MACHINE. WILHELM MEISENDER, Stuttgart-Cannstatt, Germany. Filed Dec. 6, 1926, Serial No. 153,012, and in Switzerland Nov. 8, 1926. 8 Claims. (Cl. 101—157.)

1. A rotary deep impressing printing machine, including a scraper for removing the greater part of the color strip, a stripping roller for the removal of the remainder of the color strip, said roller at the line of contact being movable in a direction opposite to the direction of movement of the cylinder.

1,858,651. APPARATUS FOR DISPLACING THE COUNTER PRESSURE ROLLER ON THE MISSING OF A SHEET IN MULTIPLE REPRODUCTION APPARATUS. RUDOLPH WEIDE, Berlin Germany, assignor to Hermann Hurwitz & Co., Berlin, Germany. Filed Sept. 9, 1929, Serial No. 391,418, and in Germany, Sept. 6, 1928. 4 Claims. (Cl. 101—247.)

1. Apparatus for displacing the counter-pressure roller on the missing of a sheet in multiple reproduction apparatus comprising, in combination, with a counter-pressure roller and the printing drum, a stop piece, a curved disc connected with the printing drum and continuously moving the stop piece to and fro, a stop adapted to be engaged by the stop piece, a gearing adapted to displace the counter-pressure roller and controlled by the stop, and a feeler controlled by the sheet to be fed and controlling the stop piece so as to engage the stop and moving it and displacing the counter-pressure roller, if no sheet is fed.

1,858,910. JUSTIFIER FOR PHOTOGRAPHICAL OR OTHER TYPESETTING MACHINES. EDMOND UHER, JR., Budapest, Hungary, assignor to Uhertype Aktiengesellschaft, Glarus, Switzerland. Filed Mar. 14, 1930, Serial No. 435,917, and in Germany Mar. 18, 1929. 12 Claims. (Cl. 199—51.)

1. A justifier for typesetting machines, comprising a slide adapted to be displaced in a straight line so as to take up the remainder of line in the form of its stroke, a second side parallel with the former and adapted to temporarily be fixed in any position, means for transmitting a variable reducing ratio unidirectional strokes of the first-mentioned slide to the second slide, and a counter of word spaces arranged as a third slide to be displaced in a direction parallel with the strokes of the two other slides and carrying a cam surface adapted to control the transmission ratio between the latter.

1,858,978. MOLD AND PROCESS FOR THE PRODUCTION OF PRINTING PLATES FROM RUBBER. ROBERT DAVOS BAIN and JAMES NELSON, London, England, assignors to Lamson Paragon Supply Company, Limited, London, England. Filed Dec. 11, 1928, Serial No. 325,387, and in Great Britain May 18, 1928. 6 Claims. (Cl. 18—44.)

2. The process of manufacturing a rubber printing plate which comprises placing moistened flong on the type to be reproduced, beating the flong, providing the beaten flong while on the type with a stout backing, drying the flong, removing the backed flong from the type, treating the surface thereof with a solution of cellulose nitrate, placing a semi-cured sheet of rubber on the flong, and subjecting the rubber to vulcanization.

1,859,110. MOLD FOR CASTING PRINTERS' FURNITURE. JOHN EDWARD PHILLIPS and ALBERT GEORGE THACKERY, Worcester, England. Filed Apr. 26, 1930, Serial No. 447,498, and in Great Britain Jan. 29, 1930. 2 Claims. (Cl. 22—136.)

1. A mold comprising a base plate having a channel opening through the top and an end thereof, a closure plate adapted to be removably superimposed upon the base plate to close the upper side of the channel, means carried by the closure plate for cooperation with the base plate to close the open end of the channel when the closure plate is superimposed upon the base plate, the closure plate having an opening formed therethrough for the introduction of molten metal into the channel, a projection on the under side of the cover to extend into the channel of the base plate, and a member adapted to be disposed in the channel to vary the effective length of the channel.

SATISFIED WITH CERTIFIED

CERTIFIED DRY MATS

CERTIFIED VALUE

To determine VALUE it is necessary to consider both price and QUALITY.

The Certified Ace*, designed for the metropolitan dailies, and the new Certified designed for the smaller foundries, combine both quality and price and represent the utmost in dry mat values.

Certified Dry Mats allow you to choose the mat best suited to your purse and purpose. They stand for 100% satisfaction without question or quibble.

Let's put Certifieds to the test in your foundry now.

CERTIFIED DRY MAT CORPORATION

338 MADISON AVENUE • • • • NEW YORK, N. Y.

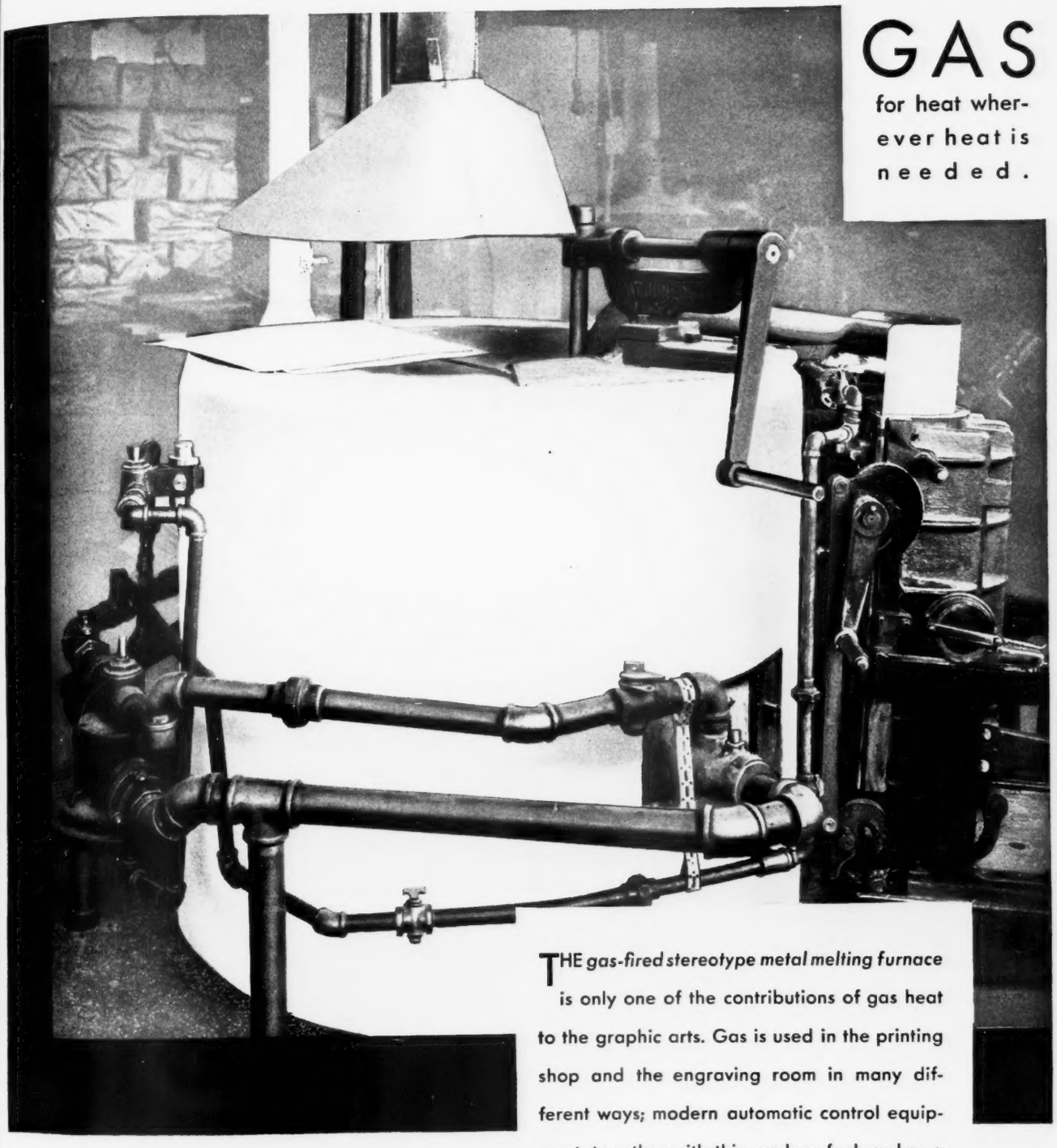
For dependable stereotyping --- use Certified Dry Mats

Made in U. S. A.

* Trade-mark registered United States Patent Office

GAS

for heat wherever heat is needed.



THE *gas-fired stereotype metal melting furnace* is only one of the contributions of gas heat to the graphic arts. Gas is used in the printing shop and the engraving room in many different ways; modern automatic control equipment, together with this modern fuel, makes a combination indispensable to those who work with ink and paper. The magazine "Industrial Gas" is a veritable textbook on the myriad uses of gas for industrial purposes. Send for a free copy of it.

AMERICAN *Gas* ASSOCIATION

420 Lexington Avenue
New York

It's NEW

« PERFECTION « MATRIX CLEANER

Performs a Miracle in

Cleaning LINOTYPE and INTERTYPE MATS

Magazines, Keyboard Cams, Entrances and Brass Fronts

JUST as you would keep clean your Linotype or Intertype machines to insure smooth operation and constant production, so should the mats in the machine be kept clean and bright so as to be readable in the assembling elevator and to insure proper escapement from the magazine at the softest touch of the keyboard. Clean mats will materially add to machine production.

A font of mats can be cleaned instantly by immersing them in a solution of Perfection Matrix Cleaner — in fact the cleaning is accomplished in five minutes' time — after which they are dried and returned to magazine — **no rubbing or polishing.**

Perfection Matrix Cleaner DOES NOT effect metal accumulations on side walls of mats and we so guarantee it. Regardless of any previous experience you may have had with other cleaners, you can use Perfection Matrix Cleaner with absolute assurance that it will do exactly what we claim for it. Hundreds of plants, large and small, are using this cleaner regularly.

Formula and Packing Exclusively by

PERFECTION TYPE, Inc.
Saint Paul, Minnesota

PERFECTION TYPE, Inc.
700 Manhattan Bldg., St. Paul, Minn.

SEND US one bottle of Perfection Matrix Cleaner for which we enclose remittance of $4.50. Open account to rated concerns. (Returnable without obligation if not as guaranteed.)

Name_____

Address_____

Interested Dealers Write

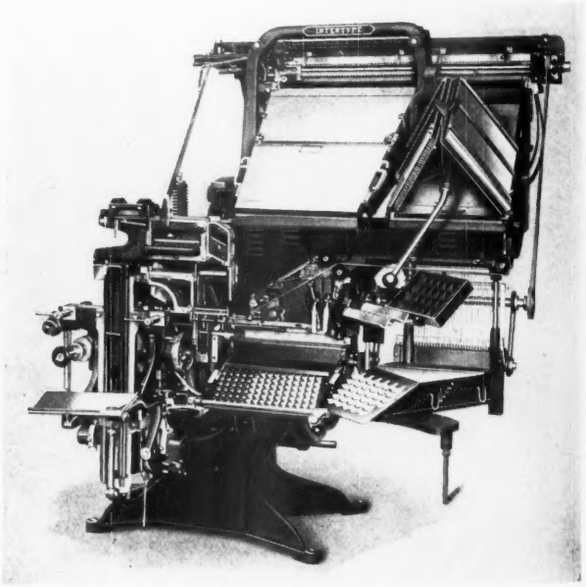
The New Intertype Text-Display Mixer

By L. W. WILLIS*

CONSISTENT with the progressive policy of Intertype engineers, a new combination 72-90 channel magazine machines has been created. This new machine is known as the Model G Text-Display Intertype.

There were several important and significant reasons for the decision to pattern this new combination machine after the Model F. Mixer design. First, composition can be set on an Intertype Mixer at straight matter speed from either magazine without distraction from the keyboard—the magazines do not have to be shifted when changing from one face to another. Second, the Mixer machine offered the advantage of automatic continuous distribution of matrices to all magazines. Third, text and display composition could be produced on one machine at a maximum saving to the user and with no additional maintenance cost.

The range of the text-display Intertype, equipped with a new wide 72-channel split magazine and a standard 90-channel magazine, runs from 5 point faces up to and including 30 point full faces, all 36 point condensed faces and some 36 point full faces.



The new wide 72-channel magazine represents a most important advance. Instead of being limited in capacity to 24 point faces like the ordinary 72-channel magazine, it is now wide enough to accommodate 30 point full faces, all 36 point condensed faces and some 36 point full faces.

For straight composition from the main magazines 90-character fonts, including full width 18 point faces, are available, and 72-character fonts, including full width 30 point faces, all 36 point condensed faces and some 36 point full faces. With auxiliary magazine equipment this new machine provides the greatest range of type faces that has ever been possible to run in combination on a composing machine without magazine changes. For example, equipped with a four-magazine side unit, the machine will handle *four complete fonts of full* 18, 24, 30 and 36 point faces directly from the main and side magazine keyboards.

Since the 72-channel magazine is a "split," special provision has been made for ample spacing material when working from this magazine.

*Patent and Research Engineer, Intertype Corporation, Brooklyn, N. Y.

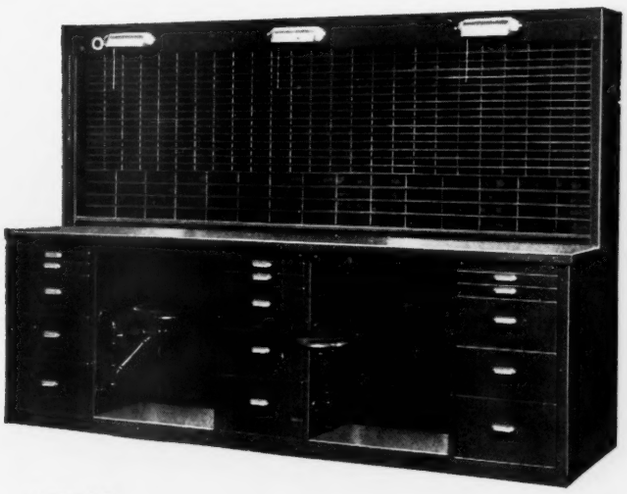
NEWSPAPER COMPOSING ROOM EQUIPMENT

by WEPSCO

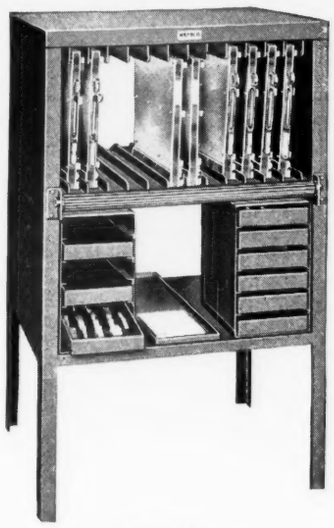
WEPSCO
Newspaper
Make-up Table

WEPSCO Steel Composing Room Equipment is especially designed for the modern newspaper composing room, and comprises every type and style of equipment for the efficient storing and handling of type and materials.

Illustrated are some of the more popular items of our manufacture, but our staff of designers and engineers will be glad to design special equipment best suited to your individual requirements.



WEPSCO
Monotype Matrix and Mold Cabinet



WEPSCO
Intertype Magazine Rack

All WEPSCO equipment is constructed entirely of electrically-welded steel, beautifully finished in olive green. This equipment is giving exceptional service under severe usage in some of the busiest composing rooms.

Consult WEPSCO on your next piece of standard or special equipment

WEPSCO STEEL PRODUCTS CO.

formerly WESTERN PIPE & STEEL COMPANY OF ILLINOIS

MAIN OFFICE AND FACTORY
2834-2900 Vermont Street
Blue Island, Illinois

Send for our catalog

SALES OFFICE
608 South Dearborn Street
Chicago, Illinois

Non-Distribution Minus "Can" Storage

Continued from page 17

quires no more room than does a font of 60-point type and so on. You can also work up closer to the bottom of the line this way. Cutting off the character weakens the type. If it is desired to run an underscore close up under a line it can be done. The only break in the rule is where the tails descend and a space or a slug will take care of that if high slugs are used. They not only brace up the tails of the type and serve to anchor the stereotypes but make stereotyping easier and protect mats from tearing. The high slug protects the type lines and also protects the dry mat. Any stereotyper should recognize that, if he is interested in saving time in his department.

One of the outstanding advantages in casting type this way is in the use of figures for prices in ads where it is necessary to work close. There is very little shoulder below the figure when it is on a smaller-sized body and the figure will stand the punishment of the giant roller because none of the body of the figure has been cut away.

I believe the adoption of case storage, properly organized and the casting of display type of smaller sized bodies is something that every newspaper composing room operating on the monotype system should investigate.

We use extra depth cases and for the 48, 60 and 72-point sizes lay three cases for the same cabinet. Two of the cases we lay in the regular manner. The third case we lay all caps, putting caps in the lower case side as well as the cap side. This balances the storage better and does not make it necessary for the printer to run around the office should he run out of one or two characters while setting a line. Simply shove the case in and pull out the one above or below, whichever the case may be, and the missing character is usually in that case. We think it better to locate the cases of these larger sizes together than to spread them around the ad room as the number of lines set are few as compared to the smaller sizes. The smaller sizes we duplicate in two or three different cabinets in the ad room.

Books Received

ROLLER LORE

The book, "Printers' Rollers," is sponsored by the National Association of Printers' Rollers Manufacturers, Inc., New York. It is published as a matter of education and to bring about a better understanding by the user of the composition roller. Much of the mystery about composition rollers is "debunked" in this treatise, especially in regard to the ingredients used in the making. In fact, the entire book contains a frank discussion on rollers. The mechanical executive interested in rollers will like the manner in which this book is written—it is brief and to the point.

Roller troubles are analyzed and remedies for those troubles are explained. Suggestions for the use of composition rollers for various kinds of commercial work are given, including advice on printing metallic inks successfully.

A chapter tells about the effect of varying weather conditions on paper and rollers in the pressroom and demonstrates the benefits of controlled humidification. Another chapter is devoted to a discussion of the merits of non-meltable composition and rubber rollers for high-speed newspaper production.

Some information on the making of composition rollers from a technical standpoint and the details necessary to see that the customer secures good service are given for the benefit of the reader-user.

Real Live Rollers Since 1865

For the latest developments in Printers' Rollers—

GODFREY PRINTERS ROLLERS

Member of the National Association of Printers' Roller Manufacturers

Godfrey Roller Company

211-13-15 North Camac Street
PHILADELPHIA, PENNSYLVANIA

WILLIAM C. SQUIBB
President

WILLIAM P. SQUIBB
Secretary and Treasurer

For the acme of perfection in non-meltable rollers—

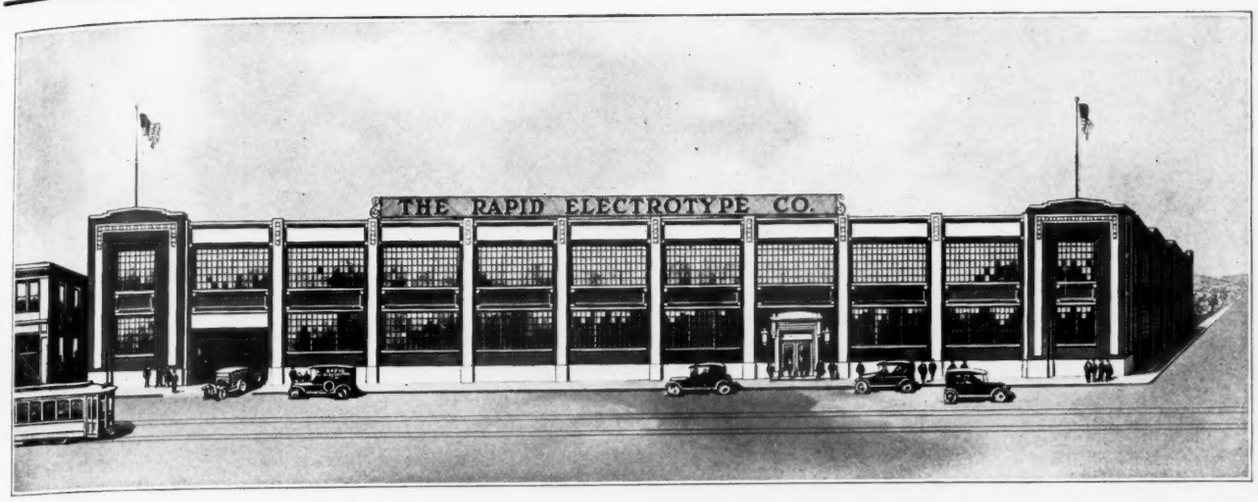
For the correct formula in newspaper rubber rollers—

For the utmost in efficiency in rubber roller regrinding and refinishing—and

For the sake of economy and service in printers' rollers in all their branches—

Call for your old friends—

GODFREY ROLLER CO.



Cincinnati is the home of The Rapid Electrotype Company, the largest plant of its kind in the world.

A Special Invitation to A. N. P. A. MEMBERS

WHEN you come to Cincinnati for the A. N. P. A. Mechanical Conference, visit the largest electrotyping plant in the world—that of The Rapid Electrotype Company. A special welcome will be accorded you, whether you come individually or in groups. The doors will be flung wide open for you, and you will have an opportunity to see for yourself how some of the largest national campaigns are handled. It will be a pleasure for The Rapid Electrotype Company to show you how mats, stereotypes and electros are released simultaneously all over the country when big advertising news breaks.

You will be especially interested in seeing in process, and having explained to you, the new Rapid Plastic Mats for four-color newspaper advertisements.

No mere "trip through a plant" this visit of yours, but a carefully directed exposition of all that is modern in the field of electrotyping and allied arts. Every effort will be made to make the visit of unusual interest and value to you.

THE RAPID ELECTROTYPE CO.

CINCINNATI

Linotype Metal Pot Mouthpiece Lockup

Continued from page 21

many instances, where this pressure has been far in excess of 1200-lbs. with the metal cold and vise locking screw breakage was in evidence due to the excessive strain set up.

In absence of any special setting gauge, the procedure to apply spring pressure will be as follows:

Adjust nut *a*, forcing washer *b* against the pot spring, compressing same until the opening between the end of the washer *b* and the end of the sleeve *i* is approximately 5/32 in., tighten nut *a*, by screwing lock nut *b* against the same securely. This should result in an opening between the pot spring coil of about 3/64 in., at which compression there will be a force exerted of about 600 lbs. against the back of the mold with metal cold. The pot spring action should be not ness than 1/16 in. or more than 1/8 in. and this can be observed by watching the opening between the shoulder of the nut *j* and the face of pot lever *k*.

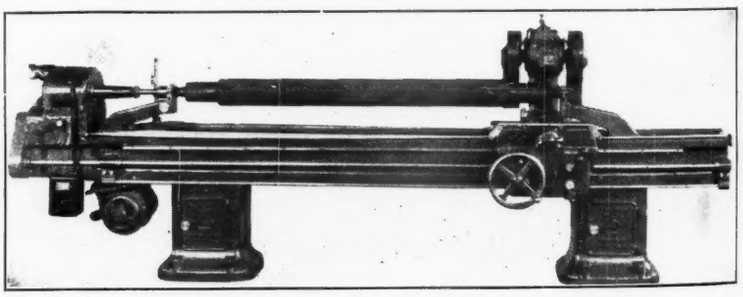
If the action is less than 1/16 in. and the adjustment is all taken up, face off the shoulder of nut *j* to secure the desired opening, when the spring is fully compressed. Clean off the mouthpiece and apply the red lead or prussian blue to the back of the mold surface as before and take another impression of the mouthpiece and mold, by turned over the machine by hand. If the impression is the same as before applying spring pressure, it is correct for lock-up and in condition to operate. Should the impression not show the correct condition, it will be due to spring of the pot legs, and the pot leg bushings should be adjusted as before until the correct results are obtained, after which the heating of the pot and metal can be proceeded with. After the metal has arrived at the operating temperature, the machine should be tried out under power. There is a possibility that the heat applied will cause a slight warping of the mouthpiece but this is rather remote. However, should it occur to the extent that the metal squirts, it will be necessary to go through the procedure as before in order to again secure a full bearing of the back mold surface and the mouthpiece.

It is sometimes necessary to increase the spring pressure after the machine has been in operation for some time, owing to spring set. This can be done by loosening the nuts *a* and *b*, Fig. 3, and advancing washer *b* closer to the sleeve *i*, again binding the nut *a* in position with the jam nut *b*. This, however, should be done with caution, inasmuch as the lock-up pressure is increased at the mouthpiece 200 lbs. for each complete turn of the nut *a*.

We have found that to increase the opening between the mouthpiece and mold, beyond 900 lbs., with the metal hot, is very apt to cause metal squirts. The interesting results of experiments covering tests along this line is indicated by the following table of pressures and variations of opening between the mouthpiece and mold:

Spring Pressure Applied in lbs. Metal Cold	Opening Between Mouthpiece and Mold Surfaces as Pot Legs Spring Under Pressure	Spring Pressure Applied in lbs. Metal Cold	Opening Between Mouthpiece and Mold Surfaces as Pot Legs Spring Under Pressure
100 lbs.	0.0000425 in.	400 lbs.	0.000306 in.
125 lbs.	0.000085 in.	425 lbs.	0.0003315 in.
150 lbs.	0.000102 in.	450 lbs.	0.0003655 in.
175 lbs.	0.000110 in.	475 lbs.	0.000408 in.
200 lbs.	0.000119 in.	500 lbs.	0.000442 in.
225 lbs.	0.0001615 in.	525 lbs.	0.000459 in.
250 lbs.	0.000221 in.	550 lbs.	0.0004845 in.
275 lbs.	0.0002295 in.	575 lbs.	0.0005015 in.
300 lbs.	0.0002465 in.	600 lbs.	0.0005185 in.
325 lbs.	0.0002635 in.	625 lbs.	0.0005338 in.
350 lbs.	0.0002805 in.	650 lbs.	0.000561 in.
375 lbs.	0.000289 in.		

PRINTERS' RUBBER ROLLERS



will only give the best results when **ground accurately *and* polished automatically!**

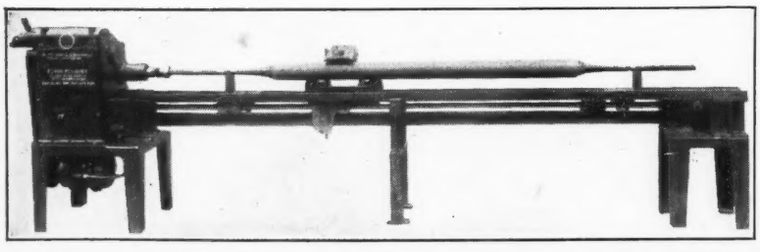
Makeshift machines and hand operations are slow and inaccurate.

THE BLACK ROCK MANUFACTURING COMPANY

(Rubber Cutting Machine Specialists)

181 OSBORNE STREET, BRIDGEPORT, CONN., U. S. A.

has perfected special machines for this work. They are fast and accurate and are the result of many years' experience. They are the best machines obtainable.



***You need a* BLACK ROCK GRINDER *and* POLISHER**

Many Newspapers and Roller Manufacturers are using them.

When any roller can be refinished *they will make* **USED ROLLERS *as* GOOD *as* NEW.**

Send for Specifications.

A New Economy

After years of research a new type metal has been perfected that is much harder than foundry metal.

Type manufactured from this amazing new metal, in daily use for over two years shows no wear. We can truthfully say that type cast from this new, hard alloy is practically **EVERLASTING.**

We are ready to fill orders in all the popular type faces in **FABERKROME TYPE** at the following prices:

6 point to 12 point . . . 75c per pound
14 point to 72 point . . . 65c per pound

TYPE CAST FROM STANDARD MONOTYPE METAL:
6 point to 36 point . . . 50c per pound

Trade Press Typographers

GEORGE A. FABER, *Manager*

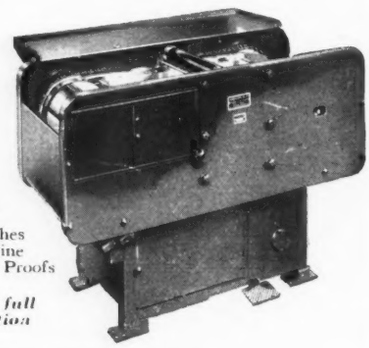
407 East Michigan Street
Milwaukee, Wisconsin

ELECTRIC Proof Press

Saves its initial cost every 11½ weeks

as compared with any other equipment of equal capacity

This is what A. C. Nielsen & Co., nationally known engineers, found out in a survey in collaboration with one of Chicago's leading newspapers. This 5-page survey will be mailed on request. Ask for it today. It's interesting.



No. 23
Printing Surface
15 x 28 inches
Makes Fine Advertisers' Proofs

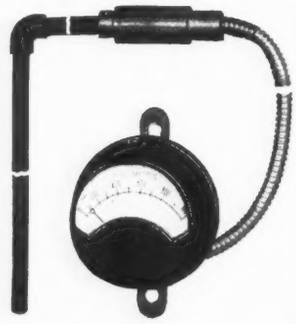
Write for full Information

VANDERCOOK
The original modern PROOF PRESS
940 N. Kilpatrick Avenue
VANDERCOOK & SONS, INC., Chicago, Ill.

Why Burn Your Metal?

Why waste fuel?
Why spoil plates?
Why risk expensive delays?

Use an "Alnor" Pyrometer



Metal temperature is vitally important to every newspaper and printing plant.

$42 COMPLETE

Why guess when you can equip each stereotype, electrotype or remelting furnace with an "Alnor" Pyrometer for as low as $42.00?

The "Alnor" Pyrometer is accurate, rugged and durable. It can be installed by any shop man in a few minutes.

It pays for itself many times over in the saving of metal, time and fuel to say nothing of improving your printing through better plates.

Write for descriptive bulletin and list of users.

Illinois Testing Laboratories, Inc.
139 W. Austin Avenue Chicago, Illinois

Dry Mat Manipulation

Continued from page 16

fore casting the plate but it requires pressure (lot of it) with an even tension while the mould is drying and setting. If the pressure and even tension are not present during this operation a buckle is quite likely to show up when the mould is taken out of the scorcher, most always requiring a lot of hard work and loss of time, trying to rub it out after the mould is set. The time to remove buckles or distortion is while the mould is still green and plastic.

The drying of the mould under pressure requires an even temperature of heat to avoid uneven stresses and distortion. A common mistake in the trade is to employ speed in lieu of uniformity of heat. It is not how hot the scorcher is that saves time, but it is a question of how uniform that heat is applied.

Iron is a very poor medium with which to distribute heat and should never be allowed to come in direct contact with the mat. An asbestos cloth should always be used, not only for the purpose of distributing the heat more evenly but to provide a cushion to keep from crushing the mould excessively under pressure.

Most all failures in positioning the mould can be traced to one or more of the following causes:

(1) Improper storage of mats, resulting in uneven condition when moulded;
(2) Insufficient pressure in the scorcher to force the printing surface into place;
(3) Inability to compensate for surface variation of the mould;
(4) Ill-fitting cover on scorcher, and
(5) Uneven distribution of heat.

For the most part, the operator readily recognizes the source but he is handicapped in his endeavor to apply sufficient pressure, without some sacrifice, between the two smooth surfaces of the scorcher.

It is not so difficult to provide the desired tension or pressure by weighting down the cover. Many operators have resorted to some plan to regulate the amount of pressure by spring tension or clamps to hold the cover down tight, but whatever the method, it is important that sufficient pressure be applied.

To compensate for surface variations it is suggested that the smooth surfaces of the scorcher be cushioned off with asbestos cloth. It will permit more pressure with less liability of damage to the mould.

Take every precaution to see that the cover fits properly, for a warped cover not only has no positioning

Linotype and Intertype Repair Service

Molds—side knives—back knives—1st elev. back jaws—spacebands—dist. box bars—2nd elev. bars—magazines—motors—dist. screws made like new—driving shafts bushed—general repairing of parts. Also make special Linotype and Intertype tools—Matrix ear file gauge $2.50—magazine expander $4.50—magazine broach $4.50—liner cutting gauge $25.00—fiber motor pinions for all makes of motors and special pinions made to order.

William Reid & Co. 537 S. La Salle St. Chicago · Illinois

value but retards the natural creep of the mould and causes it to shrink unevenly.

Uneven heat causes setting of the mould in localized spots. This naturally distorts it. Asbestos cloth will correct this condition.

To sum up, correct positioning of the mould is secured by even tension all over the mat with plenty of pressure and evenly distributed medium heat.

There has been a case come to my attention which may be of interest. I understand that a certain mechanical executive in Illinois has reconditioned a semi-type scorcher and is now getting satisfactory results in positioning.

The first thing he did was to throw away the wire screen. As asbestos cloth was placed on the iron body so as to provide a more even distribution of the heat as well as to afford a cushion effect to help compensate for the surface variations of the mould.

Next he placed a piece of asbestos cloth (wire reinforced) inside the cover but drawn up so as to keep the cover about 1½ in. away from the body of the scorcher when the cover was closed down. This wire reinforced cloth was fastened to the cover by means of a thin piece of angle iron screwed down with cloth in between. In order to prevent the cloth from sagging in the center it was tied loosely to the cover but care was taken that the cloth was able to adjust itself when the cover was down on the mould.

A stout extension spring was then placed on the cover handle in order to secure the necessary pressure.

Briefly, this is what was accomplished: A close approach to a cushion effect has been secured which compensates as much as possible for the surface variations of the mould. Also by covering the iron heating surface with asbestos an additional cushion is provided which permits far more pressure to be used without injury to the mould.

The floating asbestos top distributes the pressure evenly and there is no pinching or binding as the cover adjusts itself freely. Asbestos cloth carries the moisture away rapidly and evenly as it is expelled by the heat.

I understand that the original idea of the floating asbestos cover was conceived by Roy Stewart, mechanical superintendent of the Decatur Newspapers, Inc., Decatur, Ill. The scorchers are made with a specially constructed heavy frame to hold the asbestos.

MONOTYPE PARTS REBUILT
and New Monotype Accessories

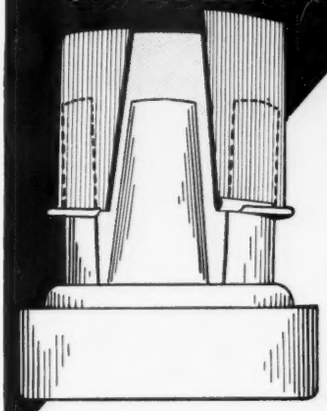
Prompt Service—Less Expensive—All Work Guaranteed

Send your name on a post card and we will put you on our mailing list to receive our monthly bulletin on "Free Monotype Equipment Exchange Service"

NEWTON MACHINE CO.

211 High Avenue Cleveland, Ohio

SAVE *what you now pay ON YOUR CORE ACCOUNT*



By Using The

ONEIDA CHUCK

It protects the ¼" to ½" of of paper on the inside of your rolls that is frequently damaged and wasted by conical or wedge-shaped chucks. Oneida Chucks make it possible to use stock wound on inexpensive, non-returnable spiral or straight wound cores, or on rolls without cores. Insures tight, steady grip and permits running down roll to last thickness of paper. Saves entire expense of "core account."

Write for Our Circular "E"

It describes the Oneida Chuck in detail and explains advantages and economies for shipper and user of paper in the roll. Tell us diameter of your arbor and inside of paper core or roll for specific information. No obligation.

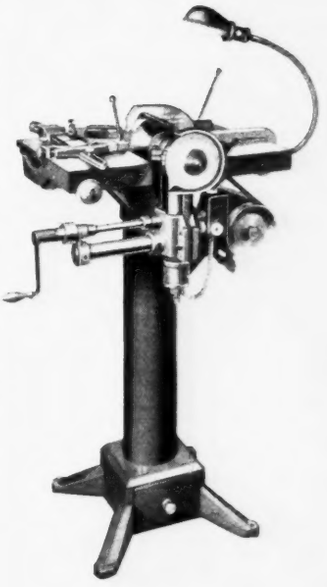
John Waldron Corp.

Makers of Converting Machines Since 1827

Main Office and Works: NEW BRUNSWICK, N. J.

Why your plant needs
COST CUTTER SAWS

Because they speed up production—increase accuracy—save time and labor—Cost Cutter Saws are essential in your plant. They quickly cut to points or fractions of points, leads, slugs, rule, type, borders, ornaments, stereotypes, electrotypes and other printing office materials of lead, brass, copper, zinc and wood.



Model "B" shown here, is an all purpose saw trimmer for large and or small plants. It saws and trims at a single operation, miters, under-cuts to points, grinds, makes outside and inside mortises and may be equipped for beveling, rabbeting, surfacing, and other special operations. For smaller plants, ad-alleys, or as an auxiliary, a smaller machine, Model "A," is offered.

Write today for complete details and prices.

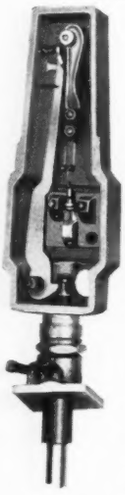
C. B. NELSON & COMPANY

727 South Dearborn Street • Chicago, Illinois

New Electric Pot

Thermostat Control

(FOR LINOTYPE—INTERTYPE—MONOTYPE)



The Ludwig Thermostat replaces parts Nos. F2257 and F2211 on the Linotype Electric Pot.

With practically no attention at all it will operate for the life of the pot.

Heat regulation is made possible to within five degrees on the most recent improved type, merely by adjusting the inside rod of the thermostat. The cover pictured to the right is slipped off without the use of any tool.

Installation is made merely by drilling four small holes in the pot cover and connecting up in the regular way.

Hundreds of these thermostats are giving satisfactory service to customers throughout the country. It is the cheapest as well as the most satisfactory solution to your pot control problem.

Price $20.00

SENT ON TEN-DAY APPROVAL

Linotype Parts Corporation

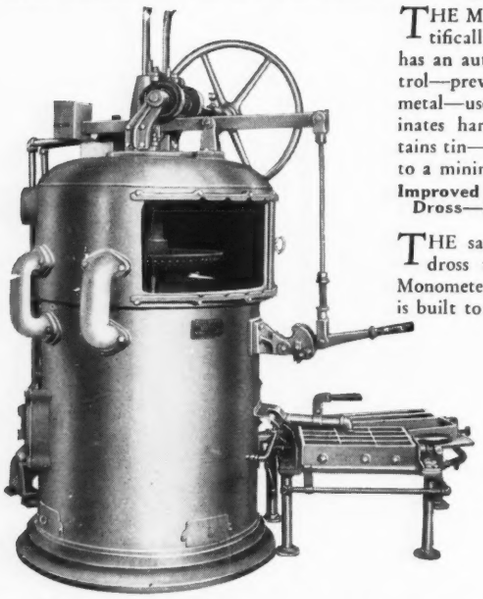
NEW YORK
270 Lafayette Street

KANSAS CITY
314 West 10th Street

Every Newspaper Plant
can profitably install

Monarch Monometer

RE-MELTING FURNACE **Operated with Electricity Gas or Oil**



THE Monometer is scientifically constructed. It has an automatic heat control—prevents burning of metal—uses less gas—eliminates harmful fumes—retains tin—and reduces dross to a minimum.

Improved Metal—Reduced Dross—Saving in Fuel

THE saving in fuel and dross will pay cost of Monometer in one year. It is built to last a lifetime.

Write for Catalog P. E. E.

The Monarch Engineering & Mfg. Co.
701-702 American Bldg., Baltimore, Md., U. S. A.
Works, Curtis Bay, Md.

Harris-Seybold-Potter Official Passes On

Carl Garfield Pritchard, Secretary and Treasurer of the Harris-Seybold-Potter Company, Cleveland, Ohio, and well known for many years in the Graphic Arts industry throughout the United States and Canada, died Friday, May 13th, after a brief illness. Mr. Pritchard was born November 27, 1870, and was a descendant of an early pioneer family of the Western Reserve.

He became associated with the Harris-Seybold-Potter Company in December, 1898. For many years he was Secretary and Assistant Treasurer of the company, and early in 1931 was made Treasurer of the corporation in addition to his duties as Secretary.

New Catalogs, Books and Bulletins

Readers of PRINTING EQUIPMENT ENGINEER who are interested in securing any of the catalogs, books or bulletins listed below can do so by checking the literature desired. Mark carefully only that literature which you wish to receive. Fill out the coupon and send it to us. The literature will be forwarded without cost except where noted.

Face the Facts—Booklet 3¾ in. by 9 in. A notable contribution to the present-day printing industry literature seeking to help the printer out of the business doldrums by revising business methods, the proper handling of printing machinery in the plant and the prevention of obsolete equipment.

Executive Obsolescence—A 3¾ in. by 9 in. booklet. Reprint of address by H. A. Porter explaining the modern trends in the printing business, and contains a warning to obsolescent management.

Kabel Inline—Folder showing all sizes of the new Kabel Inline type face.

Vulcan Press Blankets—Booklet and circular describing press blankets for printers and lithographers and rubber press rollers.

Magnetic Switches—Die-Cut, 8-page booklet, illustrating and describing standard general-purpose magnetic switches applicable to any installation from the ordinary to the hazardous kind.

Economic Advantage of Printing Press Isolation—Bulletin on advantages of the isolation of the vibration of printing machinery.

New Linotype-Intertype Knife Grinder—Bulletin describing and giving specifications of grinder as indicated in the title.

Printing Equipment Engineer,
1370 Ontario St., Cleveland, Ohio.

Gentlemen: Please send the literature checked above without obligation.

Name of Company _____

Attention of _____

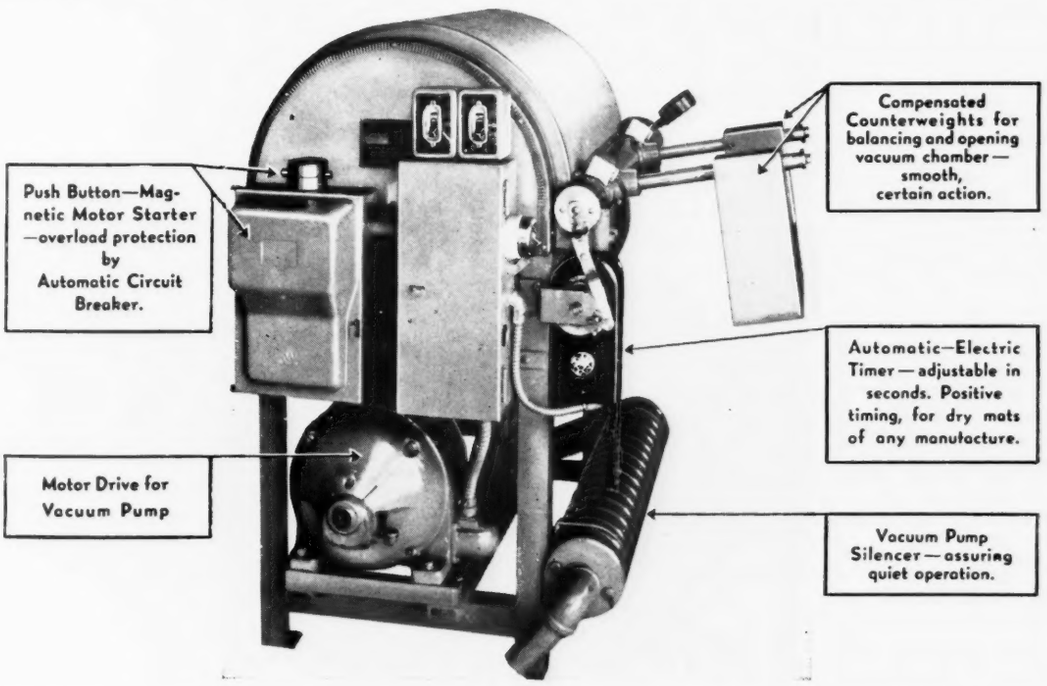
Position _____

Street Address _____

City _____ State _____

THE NEW YORK JOURNAL-AMERICAN

Have ordered STA-HI AUTOFORMERS. A swift, positive, automatic machine, for FORMING and SCORCHING dry mats with an ACCURATE CASTING FACE. Why not investigate?


Compensated Counterweights for balancing and opening vacuum chamber—smooth, certain action.
Push Button—Magnetic Motor Starter—overload protection by Automatic Circuit Breaker.
Automatic—Electric Timer—adjustable in seconds. Positive timing, for dry mats of any manufacture.
Motor Drive for Vacuum Pump
Vacuum Pump Silencer—assuring quiet operation.

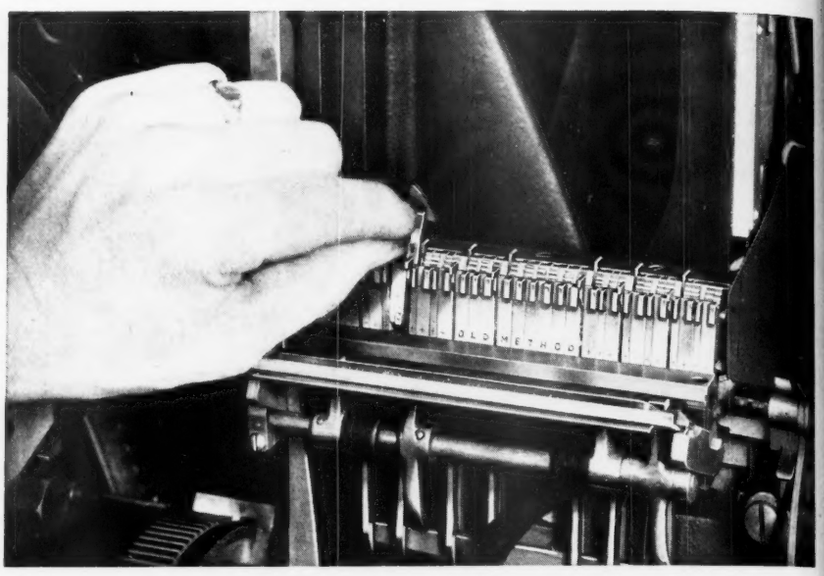
STA-HI NEWSPAPER SUPPLY COMPANY, INC., 52 WEST 34th STREET, NEW YORK

CHICAGO-GOSS PRINTING PRESS COMPANY, Los Angeles, 703 Bendix Bldg.; Seattle, Washington, 1235 Westlake Avenue, N.; Portland, Oregon, 417 Oregonian Building

London—Goss Printing Press Company, Ltd.

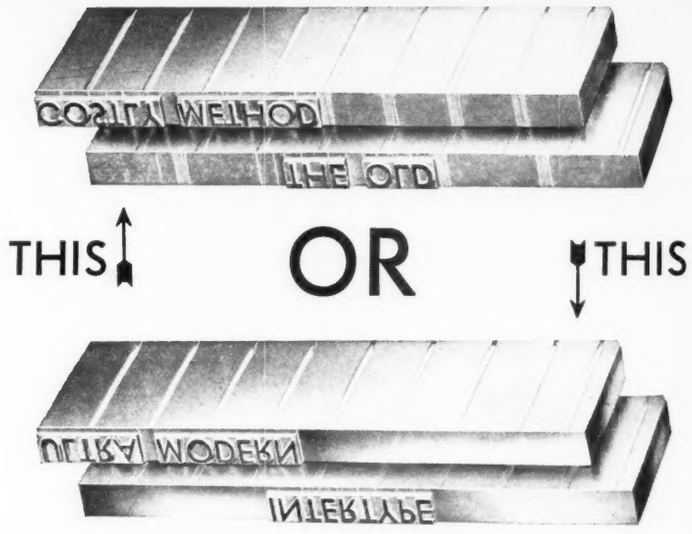
Which Would You Prefer?

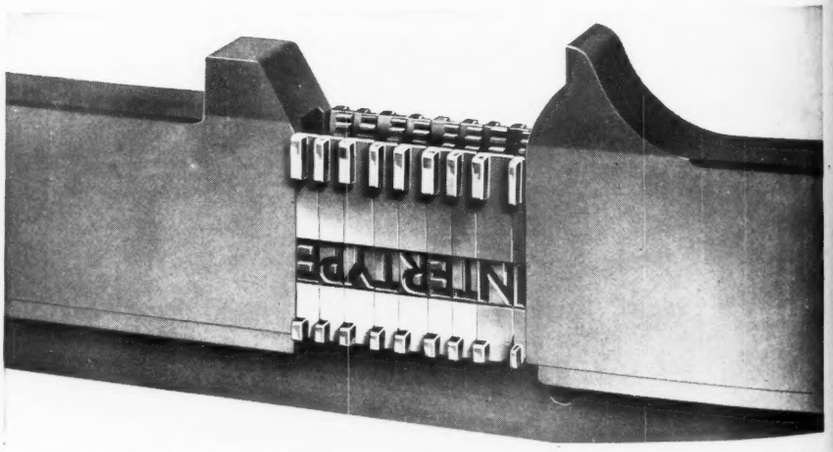
To have to drop quads and adjust spacing material by hand in the assembling elevator



OR

To have a New Intertype which Automatically Quads and Centers a single character or words on any length of slug (5 to 60 point face) with or without spacebands.





Set in Vogue Bold. Heading enlarged.

INTERTYPE CORPORATION, 360 Furman Street, Brooklyn, New York
Chicago, 130 North Franklin Street; New Orleans, 816 Howard Avenue; San Francisco, 152 Fremont Street; Los Angeles, 1220 South Maple Avenue; Boston, 80 Federal Street; Canada, Toronto Type Foundry Company Limited, Toronto • Distributors Throughout the World